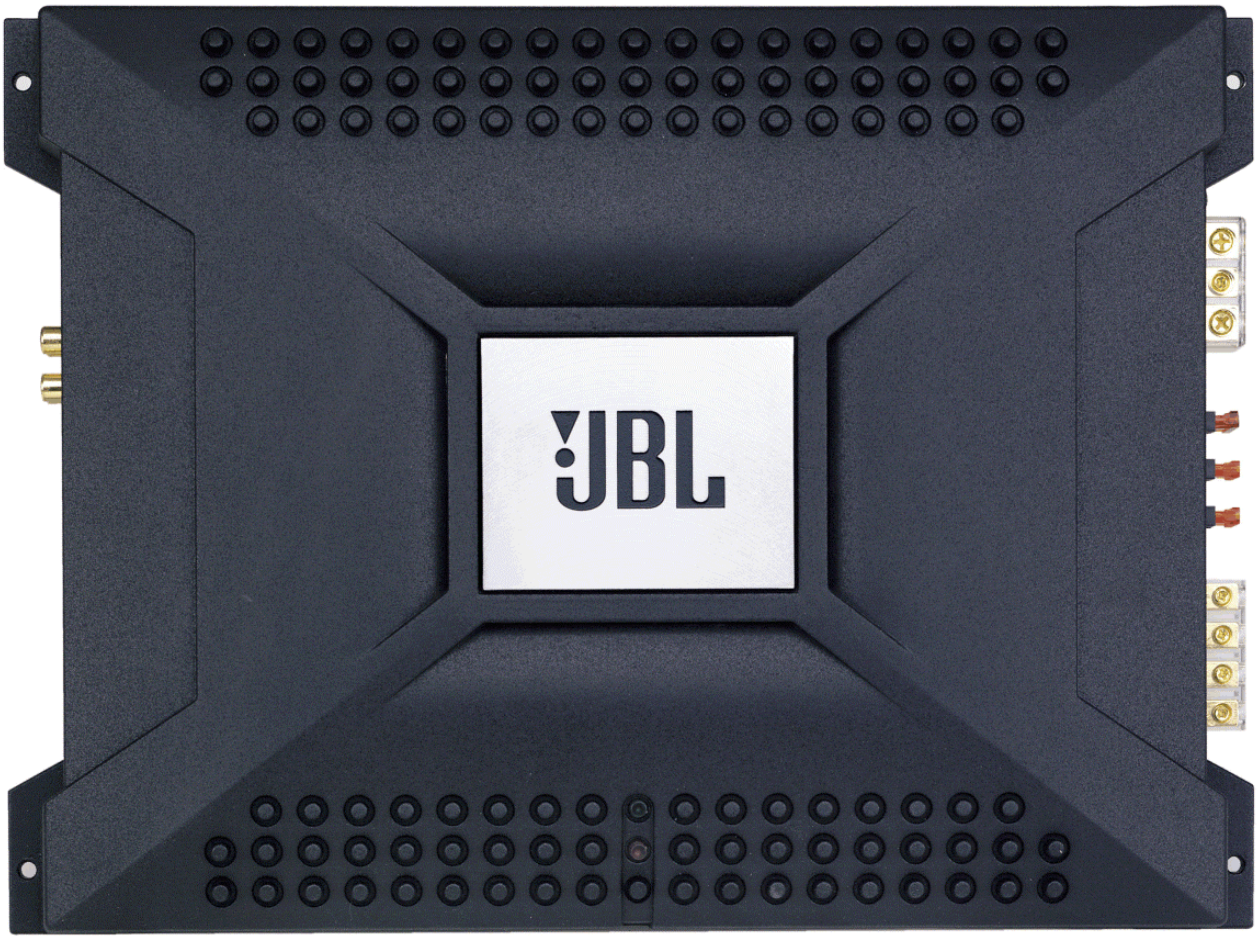
BP1200.1

1 CHANNEL
POWER AMPLIFIER

SERVICE MANUAL



JBL Consumer Products
250 Crossways Park Dr.
Woodbury, New York 11797

Rev0 1/2004

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BP1200.1 Specifications

Number of Channels 1
4 Ohms 600W
2 Ohms 1200W
T.H.D. @ 4 Ohms rated Power 0.10%
Frequency Response . . . . . 10Hz ~ 320 Hz
Signal to noise Ratio . . . . . >100dB
Maximum Current Draw 114A
Fuse size. . . . . 40A x 3
Input Sensitivity. . . . . 250mV ~ 4V
Minimum Speaker Impedance.....1 ohm
External Dimensions

- Length 14 13/16 (376mm)
- Width 10 3/16 (274mm)
- Depth 2 11/16 (68mm)

JBL continually strives to improve its products. New materials, production methods and design refinements are introduced into existing models without notice as a routine expression of our design philosophy. For this reason, BP Series Automotive Amplifiers may differ in some respects from their published specifications and descriptions, but will always equal or exceed the original specifications unless otherwise stated.

Features

- 1-Channel Operation
- Advanced MOSFET Oversized Floating Rail Power Supply (Auto turn on)
- Floating Ground Factory - Head - Unit Speaker - Level input
- Variable Input Sensitivity (250mV - 4V)
- Fully Complementary Output Stage with Class-D Voltage Amplification
- Gold-plated Power, Input and Output Connectors
- 2-Ohm Stable

Test Conditions and Notes

- All tests to be done, unless otherwise specified, from 10Hz to 320Hz at 14.4V DC into 2 ohm loads and adjust the units gain so that with a .775 volt input signal the unit is at its maximum rated output. All measurements will be done using an Audio precision system one and the supply voltage.

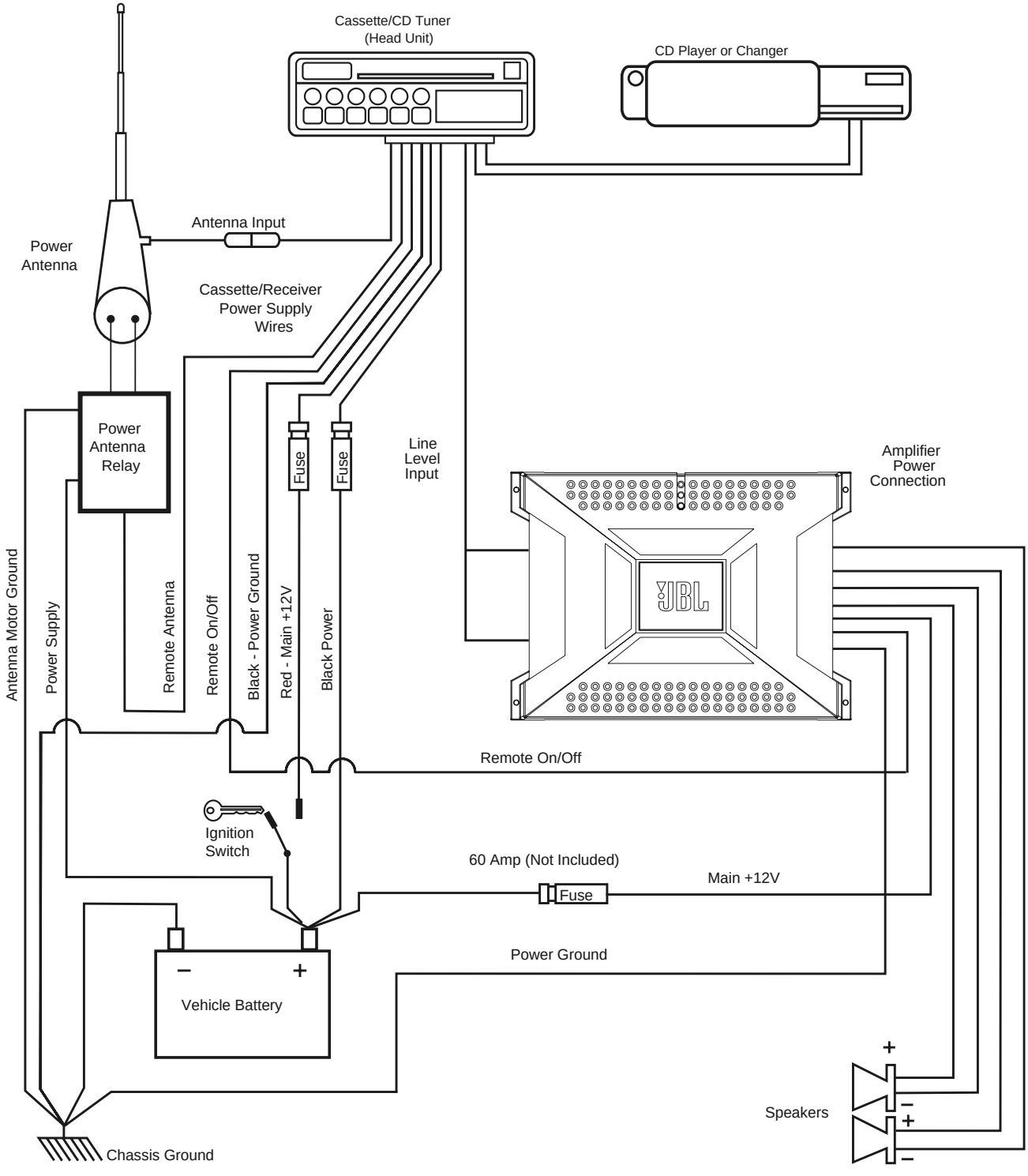
- An A+ line voltage of 14.4V DC shall be applied to the unit under test for all measurements unless otherwise specified. The voltage applied to the unit shall be measured at the power connection on the Amplifier.

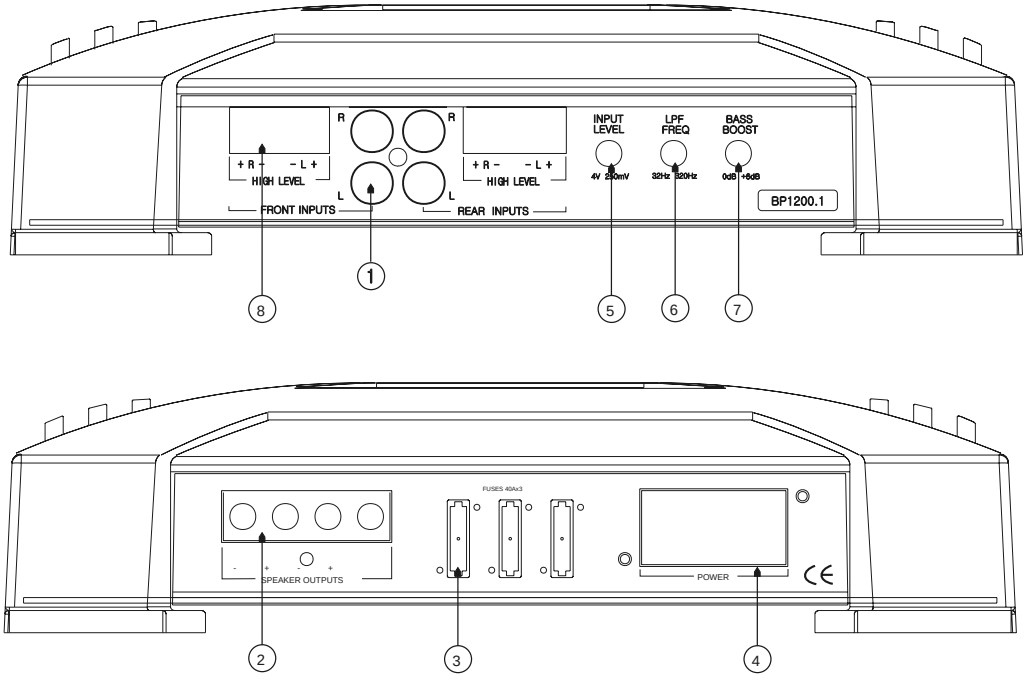
- Signal Source
  Unless otherwise specified, all tests shall be conducted with the Audio Signal Generator output configured to be balanced, less than or equal to 50 ohm source impedance, and floating. The signal source "GND" shall be connected to the Amplifier PWR GND at the Amplifier.

- Output Load
  Unless otherwise specified, all tests shall be conducted with 2 ohm resistive loads having less than 10% reactive components at any frequency below 350Hz. Each resistor shall have a value that remains within 1% while dissipating the rated output of the unit under test.

- Power Indicator LED steadily illuminates for normal operation. LED blinks when protection circuitry is engaged, and during power up.

Typical System Configuration





Controls and Connections

1. It allows left and right input channels to be connected to the amplifier using RCA plugs.

2. Speaker Output Connector - Connect speaker wiring to these connectors. See wiring instructions on page 4 for more information.

3. Fuse - 40Ax3 Amp ATC type Fuses.

4. Power Connection for 12V+, GND and REM connections for power wires. See wiring instructions on page 4 for more information.

5. Input-Level Control - Adjusts input sensitivity for pre-amp level and speaker level inputs.

6. The electronic crossover is a 12dB/oct. Low pass filter which can be Set at any frequency between 32Hz and 320Hz.

7. The bass boost control will provide up to 6dB of boost at 50Hz.

8.It allows left and righ input channels such as high level speaker output signals to be the amplifier.

Mounting the Amplifier

The JBL BP Series amplifiers can be mounted in virtually any location inside the vehicle. However, make sure to keep the amplifier away from heater vents or ducts.

1. At the chosen site, use the amplifier as a mounting template and mark the locations of the four mounting holes.

2. Drill a small pilot hole at each marked location.

3. Mount the amplifier and securely tighten the mounting screws.

Service Bulletin

Service Bulletin JBL2000-04 - November 2000 | Warranty labor rate: MINOR

To: All JBL Service Centers

Models: BP300.1, BP600.1, BP1200.1

Subject: Muting during intense bass passages

The JBL BP series amplifier is designed with the following protection circuits:
Thermal (excess heat)
DC voltage on the output terminals (overdriving or "clipping")
Short Circuit (excessive current)

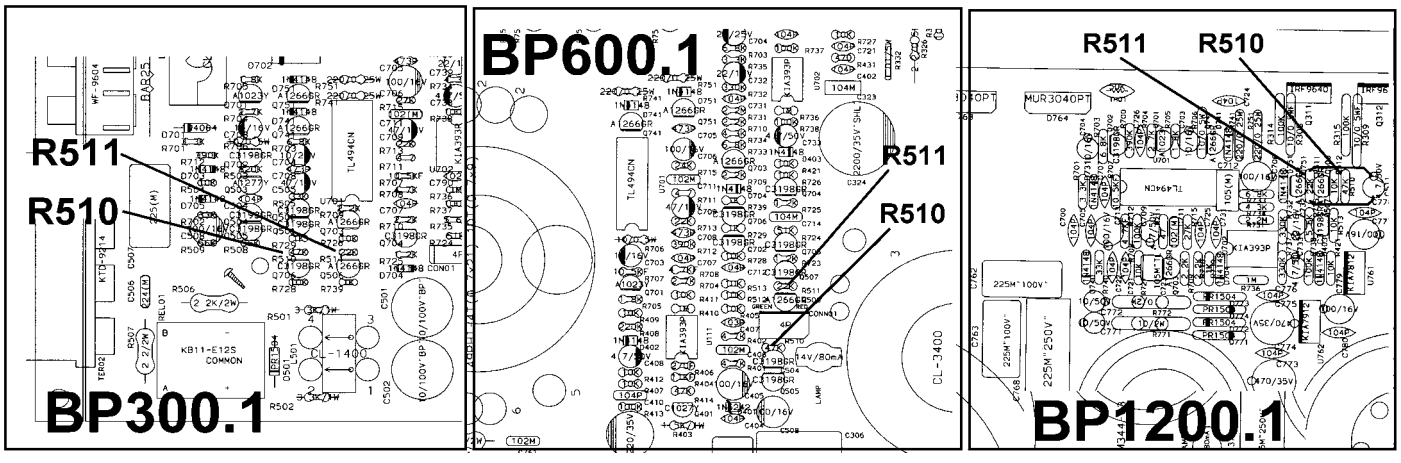
Under certain large signal conditions during intense bass passages, the unit will go into protection. These amplifiers are behaving as designed. As the unit is driven into hard clipping, the protection circuit found in BP Series amps was engineered to protect your loudspeakers from being destroyed by a severely clipped output signal. This can be remedied easily by turning the volume down somewhat on your music source.

In the event you receive a BP series amplifier with the complaint: "Under a large signal input, with music that is composed of high-level bass, the amplifier mutes for 2-3 seconds, and then returns to normal operation", the following modification will effectively increase the amount of clipping that is allowed to occur before the protection circuit engages by increasing the threshold at which the amplifier mutes - for the benefit of customers who use the amps in SPL competition, or for customers who insist on driving the amplifiers into this potentially hazardous zone.

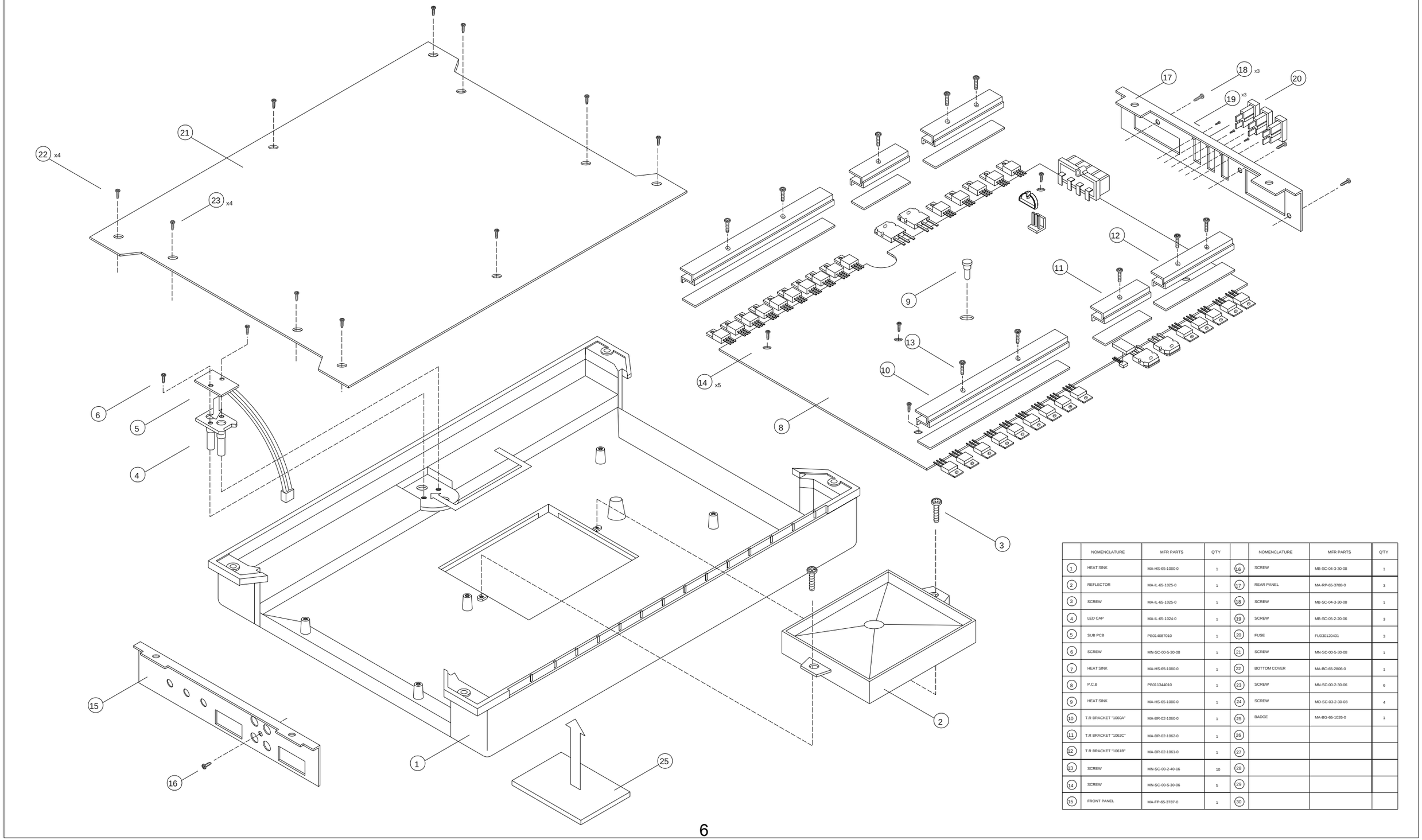
1) Turn the amplifier upside-down and remove the Phillips screws holding the bottom cover on.
2) Locate and change R510 from 47K to 4.7K ohms 1/5W (JBL part# RE212047200).
3) Locate and change R511 from 22K to 2.2K ohms 1/4W (JBL part# QAF0450-222).
4) If it is not already present, add new part - 4.7uf 50v electrolytic capacitor (JLB part# EC070114760) in parallel with R511. Polarity: The negative side of the capacitor must be connected to the junction of R510/R511, which can be discovered with an ohmmeter.

NOTE: Using the correct soldering techniques, you should be able to make these changes from the top of the PCB without its removal.

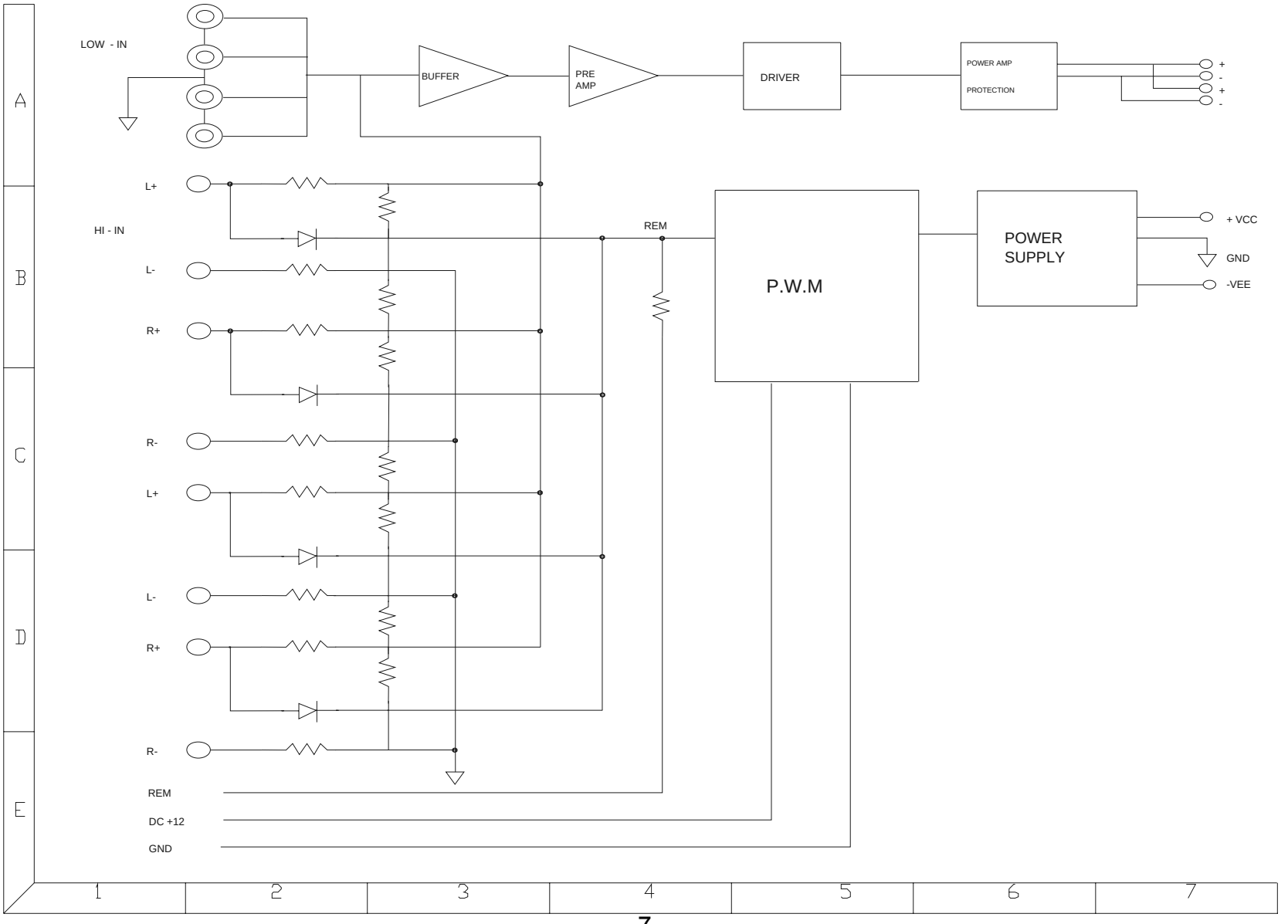
5) Replace bottom cover; test amplifier



Model	Serial number	Status	Action
BP300.1 BP600.1 BP1200.1	All Serial numbers affected	Modify if Needed	Change R510 from 47K to 4.7K ohms Change R511 from 22K to 2.2K ohms Add 4.7uf 50v electrolytic cap in parallel with R511



	NOMENCLATURE	MFR PARTS	QTY		NOMENCLATURE	MFR PARTS	QTY
1	HEAT SINK	MA-HS-65-1080-0	1	16	SCREW	MB-SC-04-3-30-08	1
2	REFLECTOR	MA-IL-65-1025-0	1	17	REAR PANEL	MA-RP-65-3788-0	3
3	SCREW	MA-IL-65-1025-0	1	18	SCREW	MB-SC-04-3-30-08	1
4	LED CAP	MA-IL-65-1024-0	1	19	SCREW	MB-SC-05-2-20-06	3
5	SUB PCB	PB014087010	1	20	FUSE	FU030120401	3
6	SCREW	MN-SC-00-5-30-08	1	21	SCREW	MN-SC-00-5-30-08	1
7	HEAT SINK	MA-HS-65-1080-0	1	22	BOTTOM COVER	MA-BC-65-2806-0	1
8	P.C.B	PB011344010	1	23	SCREW	MN-SC-00-2-30-06	6
9	HEAT SINK	MA-HS-65-1080-0	1	24	SCREW	MO-SC-03-2-30-08	4
10	T.R BRACKET "1060A"	MA-BR-02-1060-0	1	25	BADGE	MA-BG-65-1026-0	1
11	T.R BRACKET "1062C"	MA-BR-02-1062-0	1	26			
12	T.R BRACKET "1061B"	MA-BR-02-1061-0	1	27			
13	SCREW	MN-SC-00-2-40-16	10	28			
14	SCREW	MN-SC-00-5-30-06	5	29			
15	FRONT PANEL	MA-FP-65-3787-0	1	30			


LOW - IN
BUFFER
PRE AMP
DRIVER
POWER AMP
PROTECTION
+
-
+
-
HI - IN
L+
L-
R+
R-
L+
L-
R+
R-
REM
P.W.M
POWER SUPPLY
+ VCC
GND
-VEE
REM
DC +12
GND
A
B
C
D
E
1
2
3
4
5
6
7

BP1200.1 Parts List Rev 0

Main PCB, Preamp, Crossover, Power Supply and Power Amplifier

REF. NO	PART NO.	DESCRIPTION	Q'TY
F.E.T			
Q211,212,213 Q214,215,216 Q311,312,313 Q314,315,316	FE109641210	P-CH MOSFET (IRF9640)	12
Q241,242,243 Q244,341,342 Q343,344	FE106401110	N-CH MOSFET (IRF640)	8
Q742,743,744 Q745,746,752 Q753,754,755 Q756	FE132050105	N-CH MOSFET (IRF3205)	10
TRANSISTORS			
Q101,501,502 Q504,505,507 Q702,704,705 Q706	TR031981100	SMALL SIGNAL NPN (C3198GR)	10
Q102,204,205 Q232,233,304 Q305,332,333 Q401	TR010273100	SMALL SIGNAL NPN (C1027Y)	10
Q103,202,203 Q234,235,302 Q303,334,335 Q402,403,701	TR010233100	SMALL SIGNAL PNP (A1023Y)	12
Q201,301	TR035030101	VIDEO NPN (2SC3503)	2
Q231,331	TR013810201	VIDEO PNP (2SA1381)	2
Q503,506,703 Q741,751	TR012661200	SMALL SIGNAL PNP (A1266GR)	5
DIODES			
D101,102,202 D232,302,332 D402,403,601 D602,704,731 D740,741,751	DI041480000	SWITCHING (1N4148)	15
D201,231,301 D331,401	DI052420040	ZENER (0.5W) (1N5242)	5
D404,701	DI040040010	RECTIFIER (1N4004)	2
D501,771,772 D773,774	DI001504111	RECTIFIER (PR1504)	5
D702	DI054040011	FAST RECOVERY (1N5404)	1
D761,762,763 D764	DI003040999	FAST RECOVERY (MUR3040PT)	4
I.C			
U101	IC007455900	DUAL OP AMP (KIA4559P)	1
U102,103,104	IC001007200	DUAL OP AMP (TL072CP)	3
U105	IC017007400	QUAD OP AMP (TL074CN)	1
U106	IC009140600	14-STAGE COUNTER (MC14060)	1
U107,109	IC051043100	SHUNT REGULATOR (KIA431)	2
U108	IC007036100	PRECISION COMPARATOR (LM361)	1
U111,702	IC001039300	COMPARATOR (KIA393P)	2
U701	IC017049400	P.W.M (TL494CN)	1
U761	IC006781204	VOLTAGE REGULATOR (KIA7812)0	1
U762	IC006791204	VOLT AGE REGULATOR (KIA7912)	1

REF. NO	PART NO.	DESCRIPTION	Q'TY
RESISTORS			
R101,104,111 R114,146,149 R165,166,167 R171,174,178 R405,407,409 R411,412,416 R419,420,421 R504,512,513 R601,604,611 R614,726,727 R728	RE202010300	CARBON FILM 1/5W 5% (10K OHM)	31
R102,103,105 R106,602,603 R605,606	RE212100300	METAL FILM 1/5W 1% (100K OHM)	8
R112,113,115 R116,612,613 R615,616	RE212390300	METAL FILM 1/5W 1% (390K OHM)	8
R120,122,153 R154,414,510	RE202047300	CARBON FILM 1/5W 5% (47K OHM)	6
R121,123,124 R125,401,402	RE212010300	METAL FILM 1/5W 1% (10K OHM)	6
R126,155,175 R709,710	RE202022200	CARBON FILM 1/5W 5% (2.2K OHM)	5
R127,163,403	RE202015200	CARBON FILM 1/5W 5% (1.5K OHM)	3
R129	RE212022300	METAL FILM 1/5W 1% (22K OHM)	1
R130	RE212033200	METAL FILM 1/5W 1% (3.3K OHM)	1
R131,132,735	RE202056200	CARBON FILM 1/5W 5% (5.6K OHM)	3
R133,147,162 R170,179,180 R201,231,301 R331,729,739 R742,752	RE202001300	CARBON FILM 1/5W 5% (1K OHM)	14
R134	RE202015300	CARBON FILM 1/5W 5% (15K OHM)	1
R135	RE202012300	CARBON FILM 1/5W 5% (12K OHM)	1
R136	RE202470300	CARBON FILM 1/5W 5% (470K OHM)	1
R140,143,506	RE306022200	CARBO N FILM 2W 5% (2.2K OHM)	3
R141,144	RE212075300	METAL FILM 1/5W 1% (75K OHM)	2
R142,145,708	RE212047200	METAL FILM 1/5W 1% (4.7K OHM)	3
R150	RE202047800	CARBON FILM 1/5W 5% (10 OHM)	1
R151	RE202082300	CARBON FILM 1/5W 5% (75K OHM)	1
R152,164,176 R418	RE202047200	CARBON FILM 1/5W 5% (4.7K OHM)	4
R161,168,410 R736	RE202010500	CARBON FILM 1/5W 5% (1M OHM)	4
R169,743,744 R745,746,747 R753,754,755 R756,757	RE202022000	CARBON FILM 1/5W 5% (22 OHM)	11
R172	RE202100000	CARBON FILM 1/5W 5% (100 OHM)	1
R173,177	RE204022000	CARBON FILM 1/2W 5% (22 OHM)	2
R202,232,302 R332	RE212470000	METAL FILM 1/5W 1% (470 OHM)	4
R203,303	RE212091000	METAL FILM 1/5W 1% (91 OHM)	2
R204,234,304 R334	RE202330000	CARBON FILM 1/5W 5% (330 OHM)	4
R205,206,235 R236,305,306 R335,336	RE202010000	CARBON FILM 1/5W 5% (1 OHM)	8
R207,237,307 R337	RE305015200	CARBON FILM 2W 5% (1.5K OHM)	4
R208,209,210 R211,212,213 R238,239,240	RE314010000	METAL FILM 1/2W 1% (10 OHM)	20

REF. NO	PART NO.	DESCRIPTION	Q'TY
R241,308,309 R310,311,312 R313,338,339 R340,341			
R214,215,216 R217,218,219 R242,243,244 R245,315,316 R317,318,319 R342,343,345 R128,148,314 R344,413,415 R712,738	RE202100300	CARBON FILM 1/5W 5% (100K OHM)	26
R220,320	RE306047000	CARBON FILM 2W 5% (47 OHM)	2
R233,333	RE212051000	METAL FILM 1/5W 1% (51 OHM)	2
R246,346	RE908010013	SHUNT 3 LEAD 5W (0.01 OHM)	2
R247,347	RE202470000	CARBON FILM 1/5W 5% (470 OHM)	2
R404	RE212011300	METAL FILM 1/5W 1% (11K OHM)	1
R406	RE212330000	METAL FILM 1/5W 1% (330 OHM)	1
R408	RE202220300	CARBON FILM 1/5W 5% (220K OHM)	1
R417,505,740	RE202033300	CARBON FILM 1/5W 5% (33K OHM)	3
R501,502	RE306001300	CARBON FILM 2W 5% (1K OHM)	2
R503	RE202820300	CARBON FILM 1/5W 5% (820K OHM)	1
R507	RE306022800	CARBON FILM 2W 5% (2.2 OHM)	1
R508,509	RE202056300	CARBON FILM 1/5W 5% (56K OHM)	2
R511	RE202022300	CARBON FILM 1/5W 5% (22K OHM)	1
R700	RE202390300	CARB ON FILM 1/5W 5% (390K OHM)	1
R701	RE202033200	CARBON FILM 1/5W 5% (3.3K OHM)	1
R703,733	RE202068200	CARBON FILM 1/5W 5% (6.8K OHM)	2
R704	RE202027200	CARBON FILM 1/5W 5% (2.7K OHM)	1
R705	RE202018200	CARBON FILM 1/5W 5% (1.8K OHM)	1
R706	RE204010000	CARBON FILM 1/2W 5% (10 OHM)	1
R707	RE212105200	METAL FILM 1/5W 1% (10.5K OHM)	1
R711	RE202047000	CARBON FILM 1/5W 5% (47 OHM)	1
R715	RE202027300	CARBON FILM 1/5W 5% (27K OHM)	1
R723,725	RE202012200	CARBON FILM 1/5W 5% (1.2K OHM)	2
R724	RE202051300	CARBON FILM 1/5W 5% (51K OHM)	1
R731	RE202022500	CARBON FILM 1/5W 5% (2.2M OHM)	1
R732,737	RE202330300	CARBON FILM 1/5W 5% (330K OHM)	2
R734	RE202043200	CARBON FILM 1/5W 5% (4. 3K OHM)	1
R741,751	RE203220000	CARBON FILM 1/4W 5% (220 OHM)	2
R761	RE306100000	CARBON FILM 2W 5% (100 OHM)	1
R764,765	RE305039200	CARBON FILM 1W 5% (3.9K OHM)	2
R771,772	RE305010000	CARBON FILM 2W 5% (10 OHM)	2
CAPACITOR			
C101,102,197 C200,732	EC040112200	ELECTROLYTIC "SMS" (22uF/16V)	5
C106,405,509 C706,713,777 C779	EC040111010	ELECTROLYTIC "SMS" (100uF/16V)	7
C108	EC050112200	ELECTROLYTIC "SMS" (22uF/25V)	1
C171,172,178 C180,184,193 C505	EC040114700	ELECTROLYTIC "SMS" (47uF/16V)	7
C206,236,306 C336	EC070122221	ELECTROLYTIC "SHL" (2200uF/50V)	4
C403	EC070112210	ELECTROLYTC "SMS" (220uF/50V)	1
C408,709,733	EC070114760	ELECTROLYTIC "SMS" (4.7uF/50V)	3
C501,502,508 C538	EC111211000	ELECTROLYTIC "BP" (10uF/200V)	4
C701	EC050171010	ELECTROLYTIC "SXE" (100uF/25V)	1
C703,704	EC040111000	ELECTROLYTIC "SMS" (10uF/16V)	2
C716,717,718 C719,720	EC050122200	ELECTROLYTIC "RX" (2200uF/25V)	5
C771,772	EC070111000	ELECTROLYTIC "SMS" (10uF/50V)	2
C773,775	EC060114710	ELECTROLYTIC "SMS" (470uF/35V)	2
C764,765	EC071048221	ELECTROLYTIC "CE-HC" (8200uF/50V)	2
C103,104	CC011101100	CERAMIC DISK 50V "NPO" (100pF)	2
C107,118,160 C161,166,232 C332	CC011470100	CERAMIC DISK 50V "NPO" (47pF)	7
C138,142,164	CC011331200	CERAMIC DISK 50V (330pF)	3
C163,170,173 C174,175,177 C179,183,190 C191,192,194 C195,196,199 C203,233,291 C303,333,401 C402,404,510 C705,707,715 C721,722,724 C725,726,731 C774,776,778 C780	CC011104600	CERAMIC DISK 50V (0 .1uf)	37
C167,176,198 C210,310,240 C340	CC051104020	CERAMIC RADIAL MLCC (0.1uf)	7
C201,231,301 C331	CC011050100	CERAMIC DISK 50V "NPO" (5pF)	4
C407	CC011102200	CERAMIC DISK 50V (0.001uf)	1
C105,506,714	MC001110400	MYLAR 5% 50V (0.1uf)	3
C131	MC091412407	MYLAR 5% 50V "TL" (0.12uf)	1
C132	MC091468307	MYLAR 5% 50V "TL" (0.068uf)	1
C134	MC091410407	MYLAR 5% 50V "TL" (0.1uf)	1
C135	MC091418307	MYLAR 5% 50V "TL" (0.018uf)	1
C140,141,162 C409	MC001110300	MYLAR 5% 50V (0.01uf)	4
C168,205,235 C305,335,503 C504,712,762 C763,766,767	MC001410530	MYLAR 5% 63V "BOX" (1uf)	12
C204,234,304 C334	MC001422401	MYLAR 5% 63V "BOX" (0.22uf)	4
C207,307,406 C711,761	MC001110200	MYLAR 5% 50V (0.001uf)	5
C208,209,308 C309,507	MC081222511	MYLAR 5% 100V (2.2uf)	5
C2 37,768	MC001722511	MYLAR 5% 250V "TL" (2.2uf)	2
C702,723	MC091410507	MYLAR 5% 50V "TL" (1uf)	2

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REF. NO	PART NO.	DESCRIPTION	Q'TY
MISCELLANEOUS			
X101	XP300256000	RESONATOR(2.56MHZ)	1
REL01	RL001211030	RELAY (CT11-D12S)	1
RCA01	JA020554004	RCA PHONE JACK (KJB554S)	1
JA01,02	MATB6510430	TERMINAL	8
BAR01,02	JU100002500	JUMPER (25m/m)	2
BAR03,04	JU100005501	JUMPER (55m/m)	2
L701	AR109230400	CHOCK COIL (CL-900A)	1
L761	AR116331500	IRON CORE (CL-2100)	1
L501	AR112299000	FERATE 29PHI (CL-2200)	1
T01	TF173041363	CORE TROIDAL (73PHI)	1
L101,301	AR112272800	COIL (CL-1900)	2
	MASU0100050	PCB SUPPORT	1
LAM00	DS501408010	NEO WEDGE TYPE (14V 80m/m)	1
F01,02,03	FH000940200	PCB TYPE (Y-FH9402)	3
P02	TE000921400	TERMINAL (KTD-9214)	1
P01	TE000921700	TERMINAL (KTD-9217)	1
CON00	CN001040001	WAFER (LWL0640-04P)	1
TH	TB001000100	TEFLON TUBE (10m/m)	2
FET	mP010010000	PAPER SPACE	30
DIODE	mP015008000	PAPER SPACE	4
FUSE	FU030120401	40A	3
VR104	VO131502270	SEMI VOLUME 6PHI-5K	1
VR101,103	VO112203510	VOLUME	2
VR102	VO112503512	VOLUME	1
TH01	TH100500010	THERMISTOR (FTD5-350)	1
SUB PCB			
LED01	DI000124471	KLG-124E	1
LED02	DI000124371	KLR-124E	1
CONN02	CN111040200	200m/m 4P	1
MECHANICAL			
HEAT SINK	MAHS6510800	AL/DIECSTING 375.3x273.5x67.5	1
FRONT PANEL	MAFP6537870	EGI 1.5t	1
REAR PANEL	MARP6537880	EGI 1.5t	1
BOTTOM COVER	MABC6528060	AL, 344x263x1.5t	1
BADGE	MABG6510260	AL, 90.2x72.8x4t	1
REFLECTOR	MAIL6510250	ACRYL/ORANGE 128x90.1x19.4	1
LED CAP	MAIL6510240	ACRYL/CLEAR	1
T.R BRACKET (A) ""1060A"	MABR021060	AL/BAR, 142x14x6.5	2
T.R BRACKET (B) "1061B"	MABR0210610	AL/BAR, 70x14x6.5	2
T.R BRACKET (C) "1062C"	MABR0210620	AL/BAR, 47x14x6.5	2
T.R BRACKET CUSHION (A)	MOCU0110690	FIBER, 142x14x1.5t	2
T.R BRACKET CUSHION (B)	MOCU0110700	FIBER, 70x14x1.5t	2
T.R BRACKET CUSHION (C)	MOCU0110710	FIBER, 47x14x1.5t	2
SILICON PAD (A)	MASP0110761	SP1000, 145x23x0.3t	2
SILICON PAD (B)	MASP0111870	SP1000, 121x23x0.3t	2
RUBBER CUSHION (A)	MOCU0140970	RUBBER, 12x7x1.6t	1
RUBBER CUSHION (E)	MOCU0111250	RUBBER PHI 18x12t	1
SCREW	MNSC0023008	SMB 3x8 (NI-P)	2
SCREW	MNSC0053008	SMB 3x8 (NI-P) "W/W"	2
SCREW	MNSC0053006	SMB 3x6 (NI-P) "W/W"	5
SCREW	MNSC0023006	SMB 3x6 BK	6
SCREW	MOSC0323008	STT3 BH 3x8 BK	4
SCREW	MBSC0433008	STT2 PH 3x8 BK	4
SCREW	MBSC0522006	STT1 BH 2x6 BK	3
SCREW	MNSC0024016	SMP 4x16 (NI-P)	16

BP1200.1 Electrical Parts List Rev1

Part Number	Description		Qty	Reference Designator
Semiconductors				
IC051043100	SHUNT REGULATOR	KIA431	2	U107,109
TR010233100	SMALL SIGNAL PNP	KTA1023Y	12	Q103,202,203,234,235,302,303,334,335,402,403,701
TR010273100	SMALL SIGNAL NPN	KTC1027Y	12	Q102,204,205,232,233,304,305,332,333,401,504,505
TR012661200	SMALL SIGNAL PNP	KTA1266GR	4	Q506,703,741,751
TR031981100	SMALL SIGNAL NPN	KTC3198GR	8	Q101,501,502,507,702,704,705,706
TR012661200	SMALL SIGNAL PNP	KTA1277Y	1	Q503
DI041480000	SWITCHING SIGNAL	1N4148	16	D101,102,202,232,302,332,402,403,601,602 D704,731,740,741,751,413
DI040040010	RECTIFIER	1N4004	2	D404,701
DI052420040	ZENER(0.5W)	1N5242	5	D201,231,301,331,401
DI001504111	RECTIFIER	PR1504	5	D501,771,772,773,774
Resistors				
RE212051000	METAL FILM 1/5WF	120 OHM	2	R233,333
RE212091000	METAL FILM 1/5WF	220 OHM	2	R203,303
RE212330000	METAL FILM 1/5WF	270 OHM	1	R406
RE212470000	METAL FILM 1/5WF	910 OHM	4	R202,232,302,332
RE212033200	METAL FILM 1/5WF	3.3K OHM	1	R130
RE212047200	METAL FILM 1/5WF	4.7K OHM	3	R142,145,708
RE212010300	METAL FILM 1/5WF	10K OHM	4	R121,123,124,125
RE212105200	METAL FILM 1/5WF	10.5K OHM	1	R707
RE212011300	METAL FILM 1/5WF	11K OHM	1	R404
RE212022300	METAL FILM 1/5WF	110K OHM	1	R129
RE212075300	METAL FILM 1/5WF	75K OHM	2	R141,144
RE212100300	METAL FILM 1/5WF	100K OHM	8	R102,103,105,106,602,603,605,606
RE212390300	METAL FILM 1/5WF	390K OHM	8	R112,113,115,116,612,613,615,616
RE212047300	METAL FILM 1/5WF	47K OHM	2	R401,402
RE314010000	METAL FILM 1/2WF	10 OHM	20	R208,209,210,211,212,213,238,239,240,241 R308,309,310,311,312,313,338,339,340,341
RE202010000	CARBON FILM 1/5WJ	1 OHM	8	R205,206,235,236,305,306,335,336
RE202047800	CARBON FILM 1/5WJ	10 OHM	1	R150
RE202022000	CARBON FILM 1/5WJ	22 OHM	11	R169,743,744,745,746,747,753,754,755,756,757
RE202047000	CARBON FILM 1/5WJ	47 OHM	1	R711
RE202100000	CARBON FILM 1/5WJ	100 OHM	1	R172
RE202330000	CARBON FILM 1/5WJ	330 OHM	4	R204,234,304,334
RE202470000	CARBON FILM 1/5WJ	470 OHM	2	R247,347
RE202015200	CARBON FILM 1/5WJ	300 OHM	1	R127
RE202001300	CARBON FILM 1/5WJ	1K OHM	10	R133,147,162,170,179,180,729,739,742,752
RE202012200	CARBON FILM 1/5WJ	1.2K OHM	2	R723,725
RE202015200	CARBON FILM 1/5WJ	1.5K OHM	1	R163
RE202018200	CARBON FILM 1/5WJ	1.8K OHM	1	R705
RE202022200	CARBON FILM 1/5WJ	2.2K OHM	10	R126,155,175,709,710,201,231,301,331,511
RE202027200	CARBON FILM 1/5WJ	2.7K OHM	1	R704
RE202033200	CARBON FILM 1/5WJ	3.3K OHM	1	R701
RE202043200	CARBON FILM 1/5WJ	4.3K OHM	1	R734
RE202047200	CARBON FILM 1/5WJ	4.7K OHM	5	R152,164,176,418,510
RE202056200	CARBON FILM 1/5WJ	5.6K OHM	3	R131,132,735
RE202068200	CARBON FILM 1/5WJ	6.8K OHM	2	R703,733
RE202010300	CARBON FILM 1/5WJ	10K OHM	31	R101,104,111,114,146,149,165,166,167,171 R174,178,405,407,409,411,412,416,419,420 R421,504,512,513,601,604,611,614,726,727,728
RE202012300	CARBON FILM 1/5WJ	12K OHM	1	R135
RE202015300	CARBON FILM 1/5WJ	15K OHM	1	R134
RE202027300	CARBON FILM 1/5WJ	27K OHM	2	R715,415
RE202033300	CARBON FILM 1/5WJ	33K OHM	2	R505,740
RE202018300	CARBON FILM 1/5WJ	18K OHM	1	R417
RE202047300	CARBON FILM 1/5WJ	47K OHM	4	R120,122,153,154
RE202051300	CARBON FILM 1/5WJ	51K OHM	1	R724
RE202056300	CARBON FILM 1/5WJ	56K OHM	2	R508,509

RE202082300	CARBON FILM 1/5WJ	75K OHM	1	R151
RE202100300	CARBON FILM 1/5WJ	100K OHM	24	R214,215,216,217,218,219,242,243,244,245,315-319,342, R343,345,128,148,314,344,712,738
RE202220300	CARBON FILM 1/5WJ	220K OHM	2	R408,414
RE202330300	CARBON FILM 1/5WJ	330K OHM	2	R732,737
RE202390300	CARBON FILM 1/5WJ	390K OHM	1	R700
RE202470300	CARBON FILM 1/5WJ	470K OHM	1	R136
RE202820300	CARBON FILM 1/5WJ	820K OHM	1	R503
RE202010500	CARBON FILM 1/5WJ	1M OHM	4	R161,168,410,736
RE202022500	CARBON FILM 1/5WJ	2.2M OHM	1	R731
RE203220000	CARBON FILM 1/4WJ	220 OHM	2	R741,751
RE204010000	CARBON FILM 1/2WJ	10 OHM	1	R706
RE204022000	CARBON FILM 1/2WJ	22 OHM	2	R173,177

Capacitors

EC070110100	ELECTROLYTIC "SMS"	1uF/50V	1	C409
EC070114760	ELECTROLYTIC "SMS"	4.7uF/50V	4	C408,709,733,511
EC040111000	ELECTROLYTIC "SMS"	10uF/16V	2	C703,704
EC070111000	ELECTROLYTIC "SMS"	10uF/50V	2	C771,772
EC040112200	ELECTROLYTIC "SMS"	22uF/16V	5	C101,102,197,200,732
EC050112200	ELECTROLYTIC "SMS"	22uF/25V	1	C108
EC040114700	ELECTROLYTIC "SMS"	47uF/16V	7	C171,172,178,180,184,193,505
EC040111010	ELECTROLYTIC "SMS"	100uF/16V	7	C106,405,509,706,713,777,779
EC050171010	ELECTROLYTIC "SXE"	100uF/25V	1	C701
CC011470100	CERAMIC DISK 50V "NPO"	47pF	5	C107,118,160,161,166
CC011101100	CERAMIC DISK 50V "NPO"	100pF	2	C103,104
CC011102200	CERAMIC DISK 50V	102pF	1	C407
CC011102200	CERAMIC DISK 50V	103pF	1	C100
CC011104600	CERAMIC DISK 50V	104pF	38	C163,170,173,174,175,177,179,183,190,191,192,194,196,199, C203,233,291,303,333,401,402,404,510,705,707,715,721,724, C725,726,731,774,776,778,780,700
CC011331200	CERAMIC DISK 50V	330pF	3	C138,142,164
CC051104020	CERAMIC RADIAL MLCC	104pF	7	C167,176,198,210,310,240,340
MC001110200	MYLAR 5% 50V	102J	5	C207,307,406,711,761
MC001110300	MYLAR 5% 50V	103J	3	C140,141,162
MC001110400	MYLAR 5% 50V	104J	3	C105,506,714
MC001422401	MYLAR 5% 63V "BOX"	224J	4	C204,234,304,334
MC091410407	MYLAR 5% 63V "TL"	104J	1	C134
MC091410507	MYLAR 5% 63V "TL"	105J	2	C702,723
MC091412407	MYLAR 5% 63V "TL"	124J	1	C131
MC091418307	MYLAR 5% 63V "TL"	183J	1	C135
MC091468307	MYLAR 5% 63V "TL"	683J	1	C132

Miscellaneous

IN012100500	AXIAL 5%	100uH	1	L160

POWER SUPPLY

Semiconductors

IC017049400	P.W.M	TL494CN	1	U701
IC007036100	PRECISION COMPARATOR	LM361	1	U108
IC009140600	14-STAGE COUNTER	MC14060	1	U106
IC017007400	QUAD OP AMP	TL074CN	1	U105
IC001007200	DUAL OP AMP	TL072CP	3	U102,103,104
IC007455900	DUAL OP AMP	KIA4559P	1	U101
IC001039300	COMPARATOR	KIA393P	2	U111,702
IC006781204	VOLTAGE REGULATOR	KIA7812	1	U761
IC006791204	VOLTAGE REGULATOR	KIA7912	1	U762
TR013810201	VIDEO PNP	ESA1381	2	Q231,331
TR035030101	VIDEO NPN	ESC3503	2	Q201,301
FE106401110	N-CH MOSFET	IRF640	8	Q241,242,243,244,341,342,343,344
FE109641210	P-CH MOSFET	IRF9640	12	Q211,212,213,214,215,216,311,312,313,314
FE132050105	N-CH MOSFET	IRF3205	10	Q742,743,744,745,746,752,753,754,755,756
DI054040011	FAST RECOVERY	1N5404	1	D702

DI003040999	FAST RECOVERY	MUR3040PT	4	D761,762,763,764

Resistors

RE305010000	CARBON FILM 2WJ	10 OHM	2	R771,772
RE305039200	CARBON FILM 1WJ	3.9K OHM	2	R764,765
RE306022800	CARBON FILM 2WJ	2.2 OHM	1	R507
RE306047000	CARBON FILM 2WJ	47 OHM	2	R220,320
RE306100000	CARBON FILM 2WJ	100 OHM	1	R761
RE306001300	CARBON FILM 2WJ	1K OHM	2	R501,502
RE306022200	CARBON FILM 2WJ	2.2K OHM	7	R140,143,506,207,237,307,337
RE305022200	CARBON FILM 1WJ	2.2K OHM	1	R403
RE908010013	SHUNT 3 LEAD 5W	0.01 OHM	2	R246,346
VO131502270	SEMI H-TYPE(RG06P)6PHI	5K	1	VR104
VO112203510	DOUBLE LAYER,3B20KX2	VO112203510	2	VR101,103
VO112503512	DOUBLE LAYER,15C50KX2	VO112503512	1	VR102
TH100500010	50K	FTD5-350	1	TH01

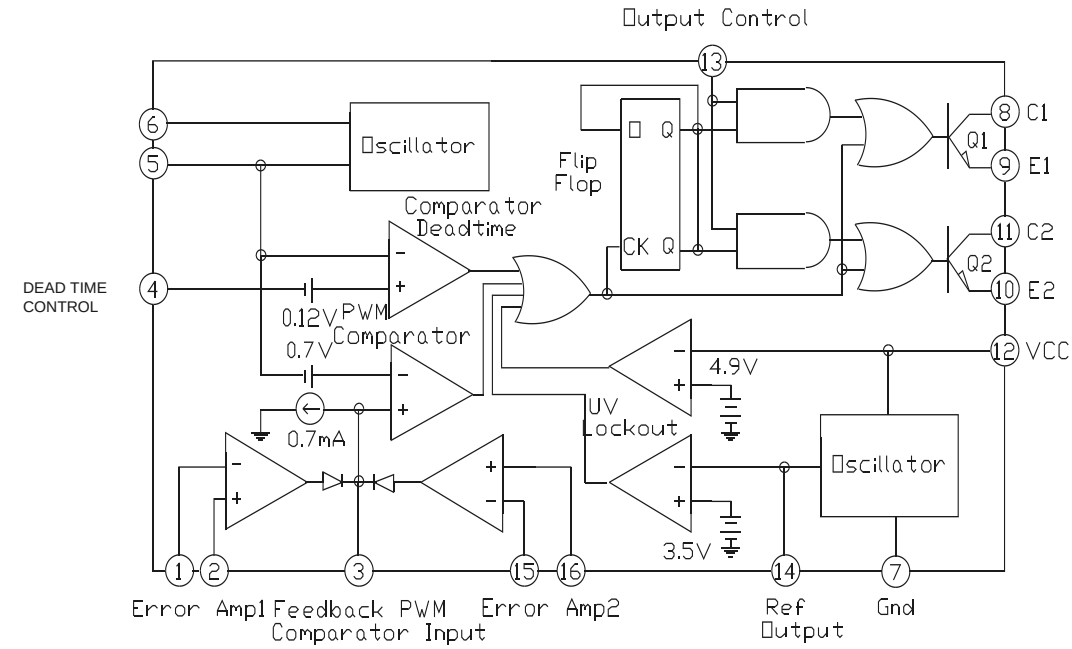
Capacitors

EC070112210	ELECTROLYTIC "SMS"	220uF/50V	1	C403
EC060114710	ELECTROLYTIC "SMS"	470uF/35V	2	C773,775
EC111211000	ELECTROLYTIC "BP"	10uF/200V	5	C501,502,508,538,500
EC070122221	ELECTROLYTIC "SHL"	2200uF/50V	4	C206,236,306,336
EC050122200	ELECTROLYTIC "RX"	2200uF/25V	5	C716,717,718,719,720
EC071048221	ELECTROLYTIC "CE-HC"	8200uF/50V	2	C764,765
MC001410530	MYLAR 5% 63V"BOX"	105J	10	C168,205,235,305,335,503,504,712,766,767
MC081222511	MYLAR 5% 100V "□□"	225J	7	C208,209,308,309,507,762,763
MC001722511	MYLAT 5% 250V "TL"	225J	2	C237,768

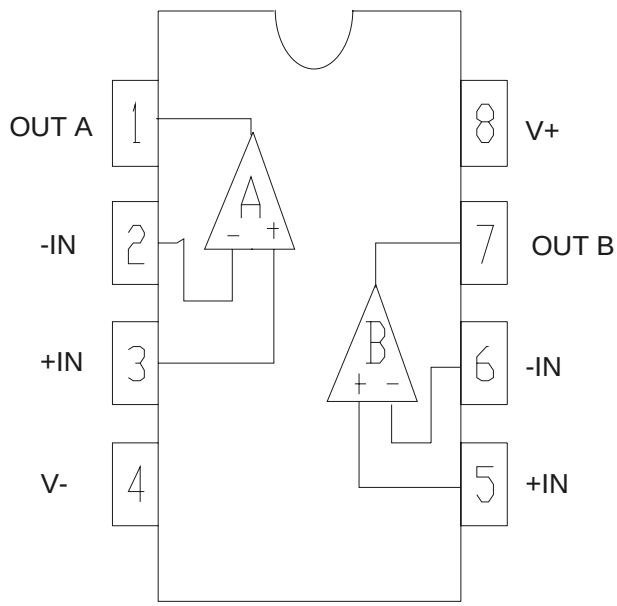
MISCELLANEOUS/MECHANICAL

XR300256000	2.56GHz	CSA256MG	1	X101
RL001211030	DC12V 30A RELAY	CT11-D12S	1	REL01
JA020554004	GOLD PLATE	KJB554S	1	RCA01
MATB6510430	NI-PLATE	MA-TB-65-1043-0	8	JA01,02
JU100002500	NI-PLATE	25m/m	2	BAR01,02
JU100005501	NI-PLATE	55m/m	2	BAR03,04
AR109230400	CHOCK COIL	CL-900A	1	L701
AR116331500	IRON CORE	CL-2100	1	L761
AR112299000	FERATE 29PHI	CL-2200	1	L501
TF173041363	TROIDAL , MAGNATIC	73PHI	1	T01 4T(0.7X30):13T(0.7X10)+4T(0.7X1)
AR112272800	DURM	CL-3100	2	L101,301
MASU0100050	DAMWS-2N	MA-SU-01-0005-0	1	
DS501408010	NEO WEDGE TYPE	14V80m/m	1	LAM00
FH000940200	PCB TYPE	Y-FH9402	3	F01,02,03
TE000921400	GOLD PLATED,3P	KTD-9214	1	P02
TE000921700	GOLD PLATED,4P	KTD-9217	1	P01
CN001040001	LOCK WAFER,4P	LWL0640-04P	1	CON00
TB001000100	0.7PHI	10m/m	2	TH
mP010010000		10x10x0.5t	30	FET
mP015008000		15x8x0.5t	4	DIODE
FU030120401		40A	3	FUSE
MOCU0544320	PVC PLATE	PVC,44PHIx03t	2	L101,301
	PVC PLATE	PVC,70PHIx03t	1	
DI000124471	GREEN	KLG-124E	1	LED01
DI000124371	RED	KLR-124E	1	LED02
CN111040200		200m/m 4P	1	CONN02

U701 (TL494CN) P.W.M IC



U101 (KIA4559P) - DUAL OP AMP
U111,702 (KIA393P)



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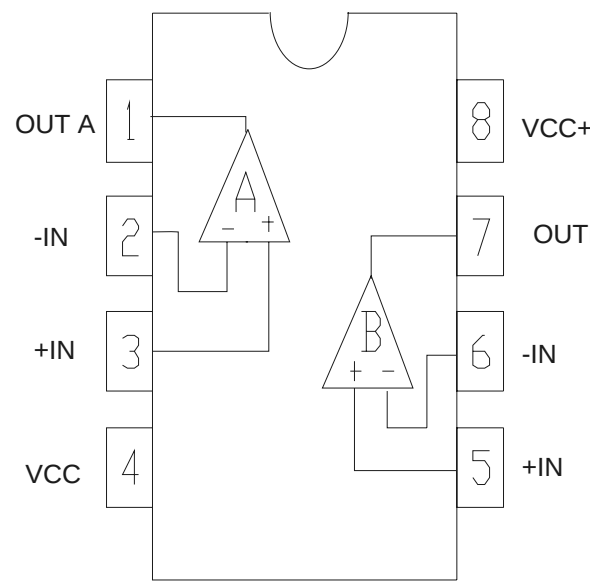

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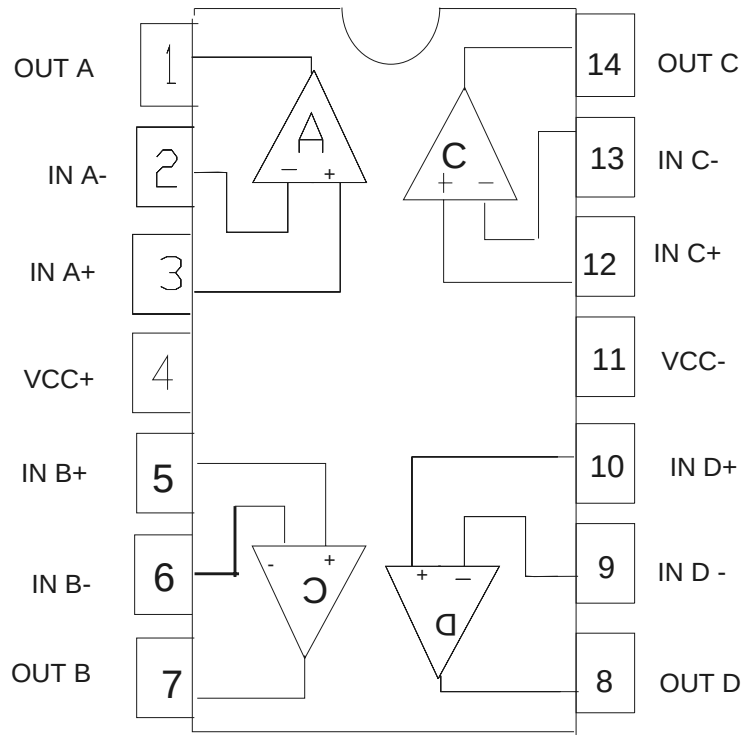

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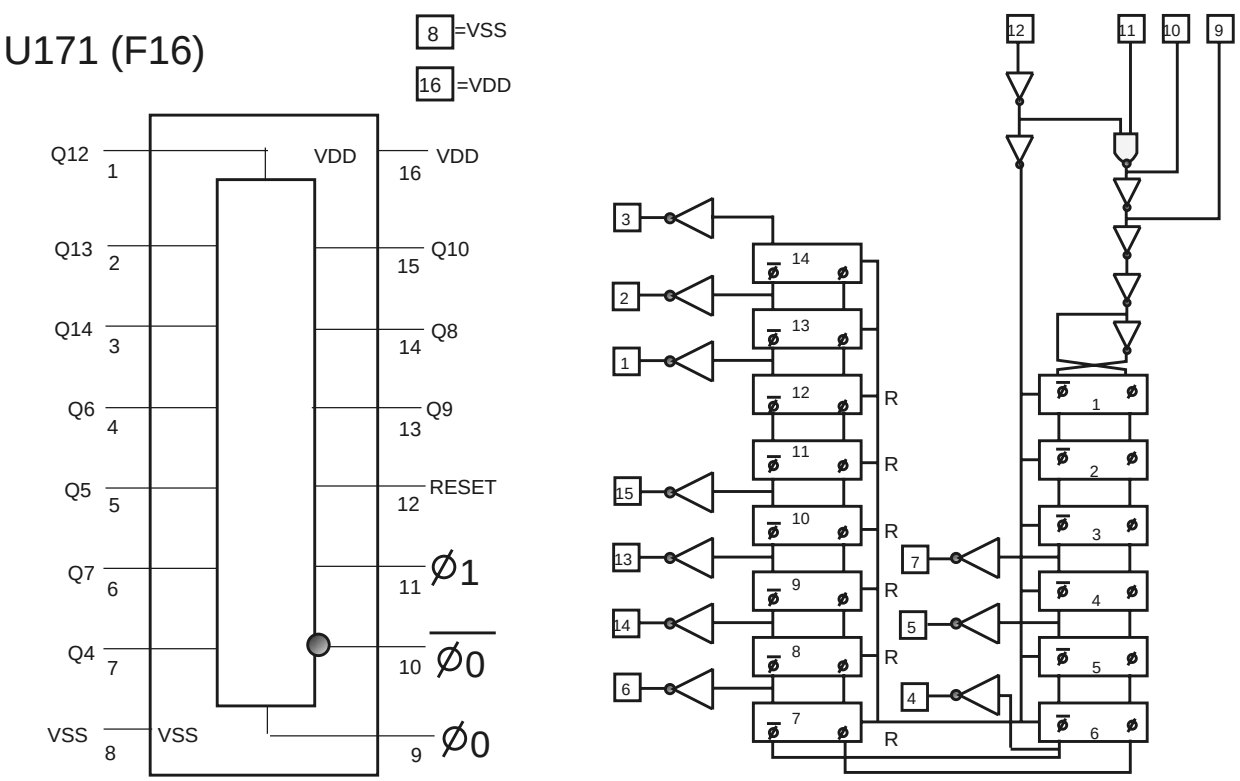

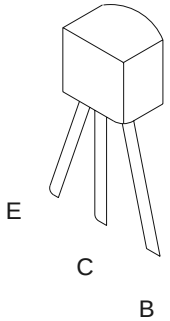

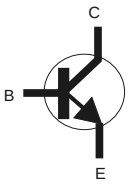

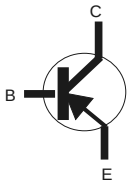

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* KTA1266GR *
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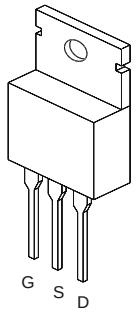

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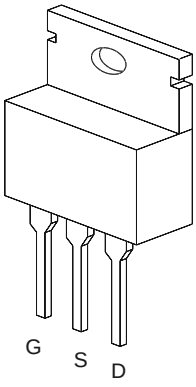
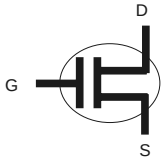
Q315,316





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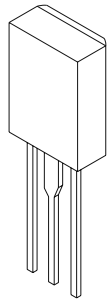

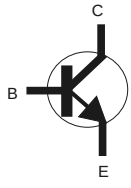

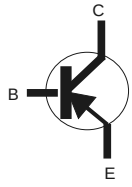

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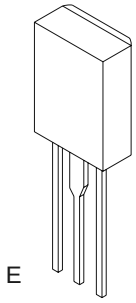

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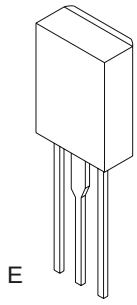

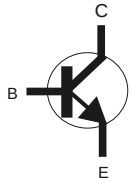

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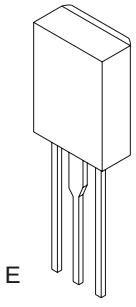
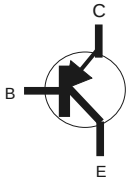
Q304,305,332,333,401,504,505





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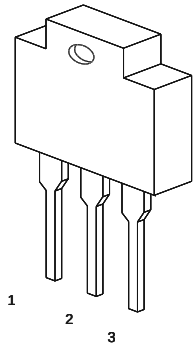
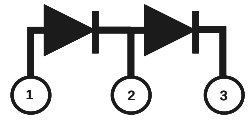
Q335,402,403,701





*** MUR3040PT ***
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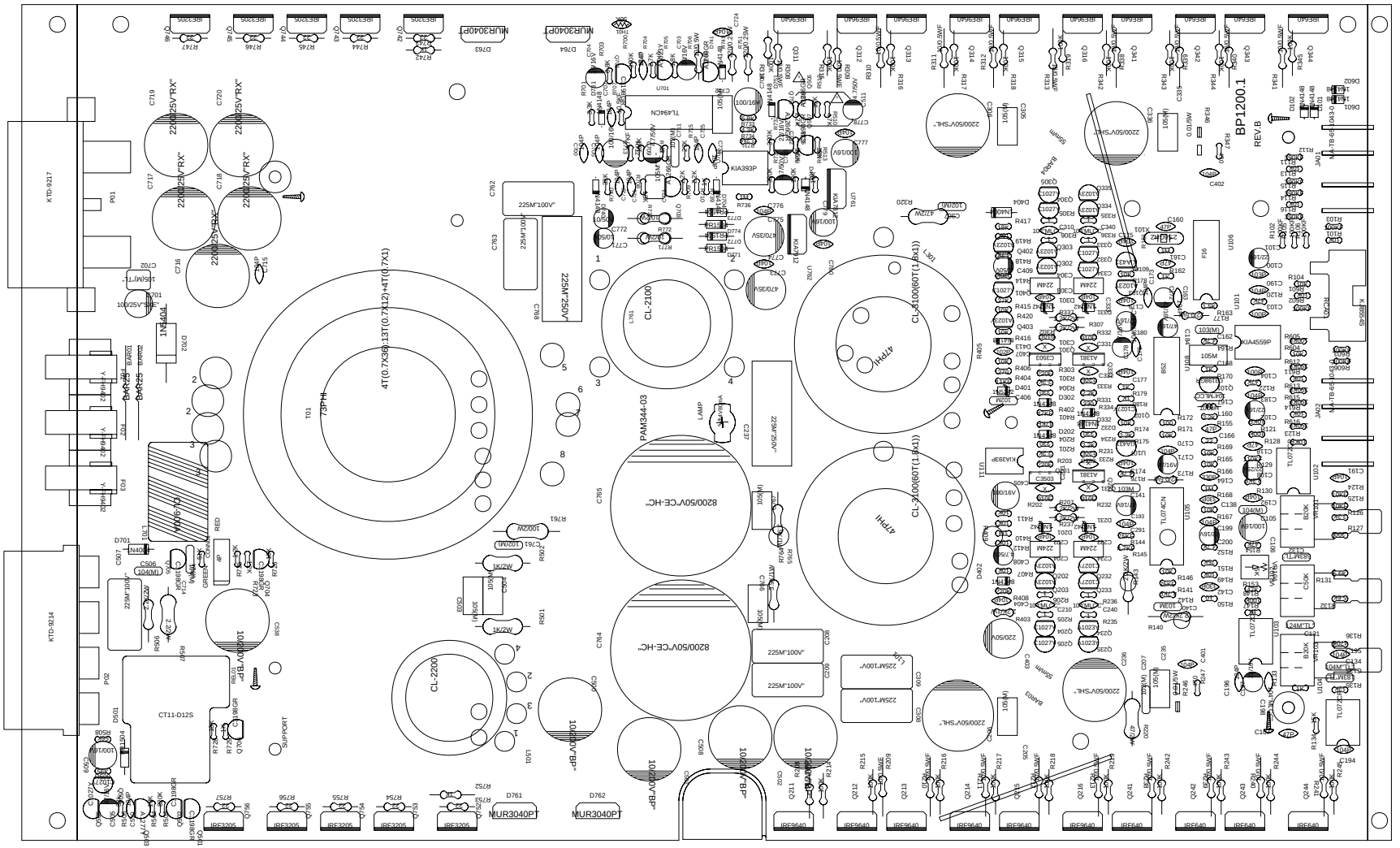
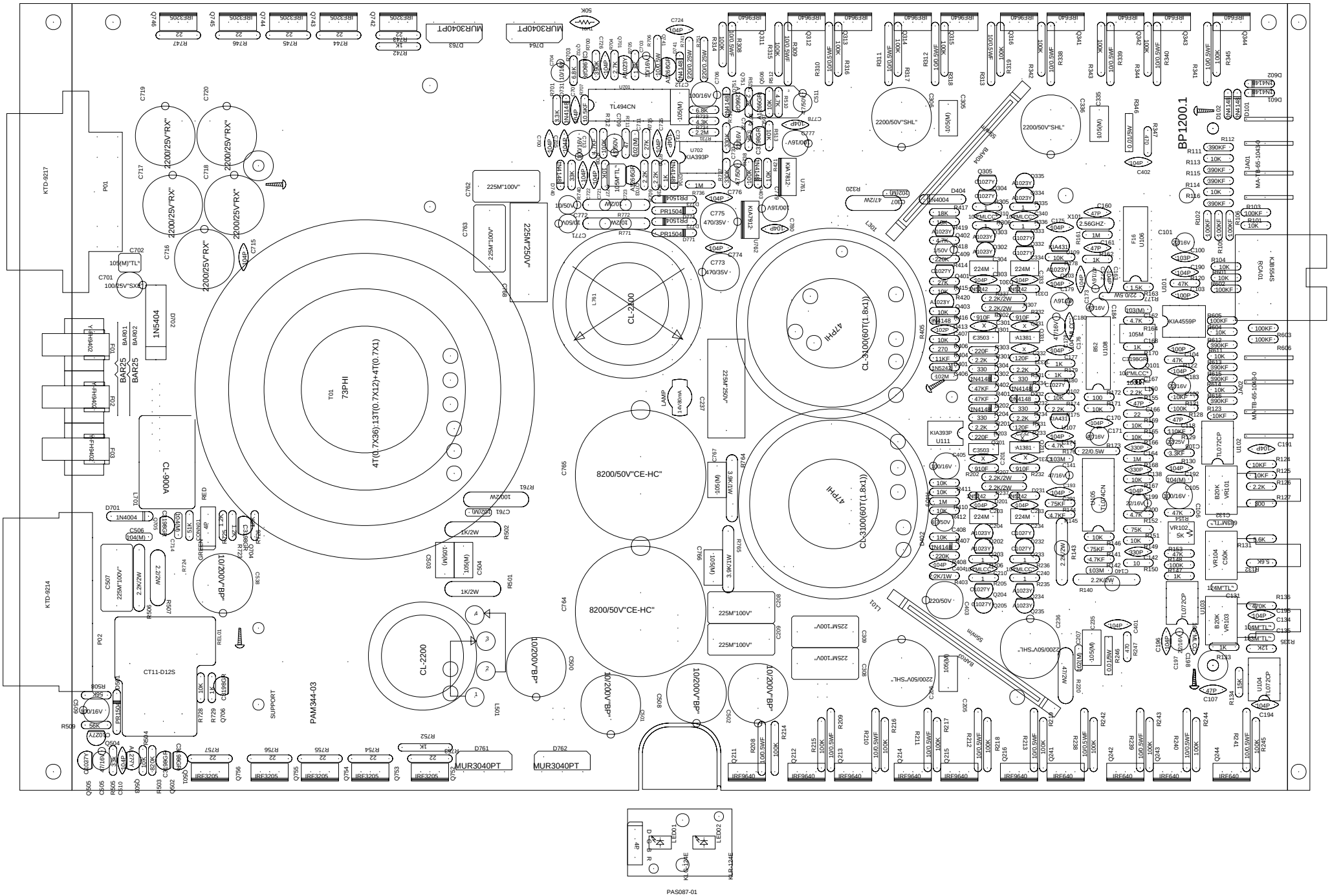
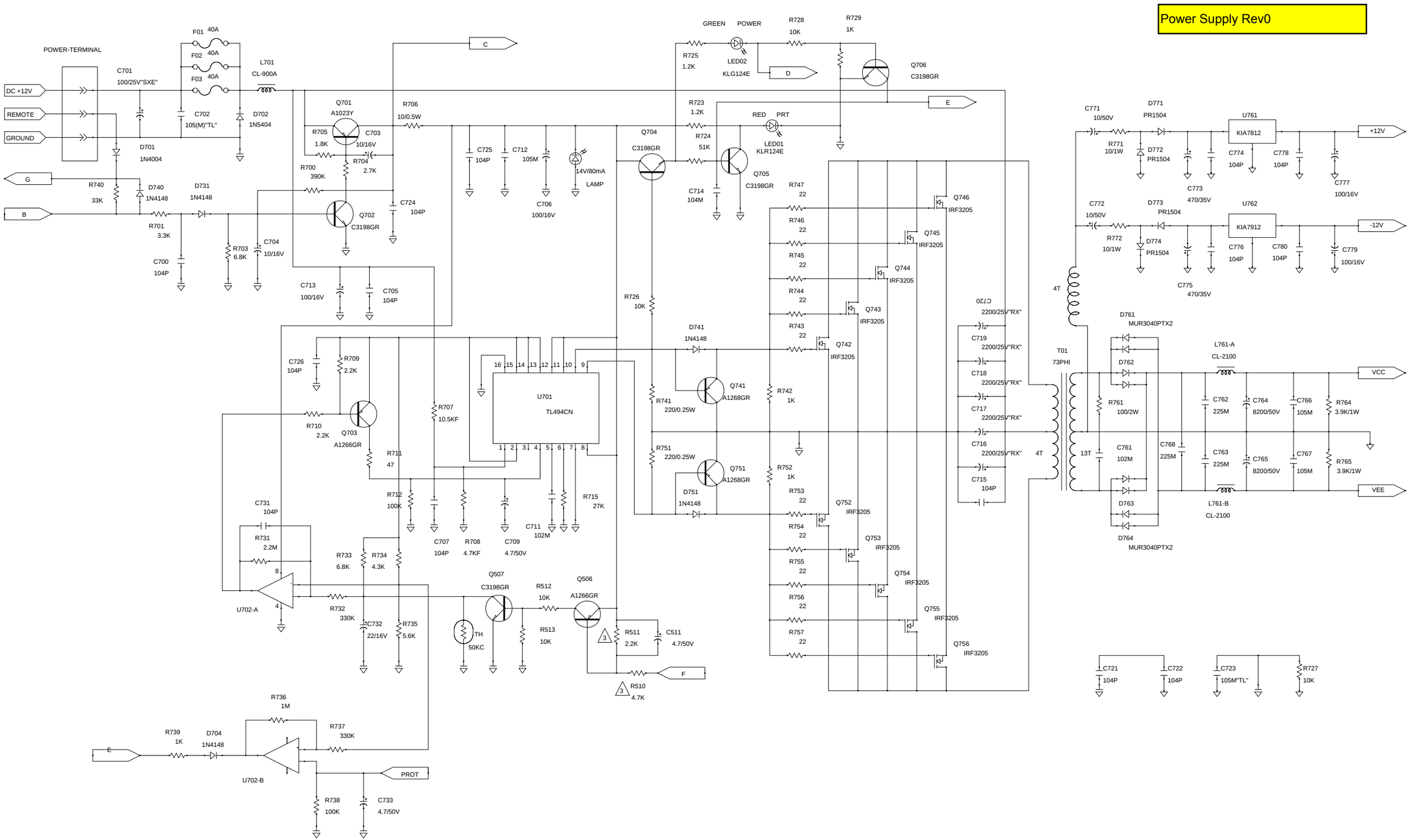
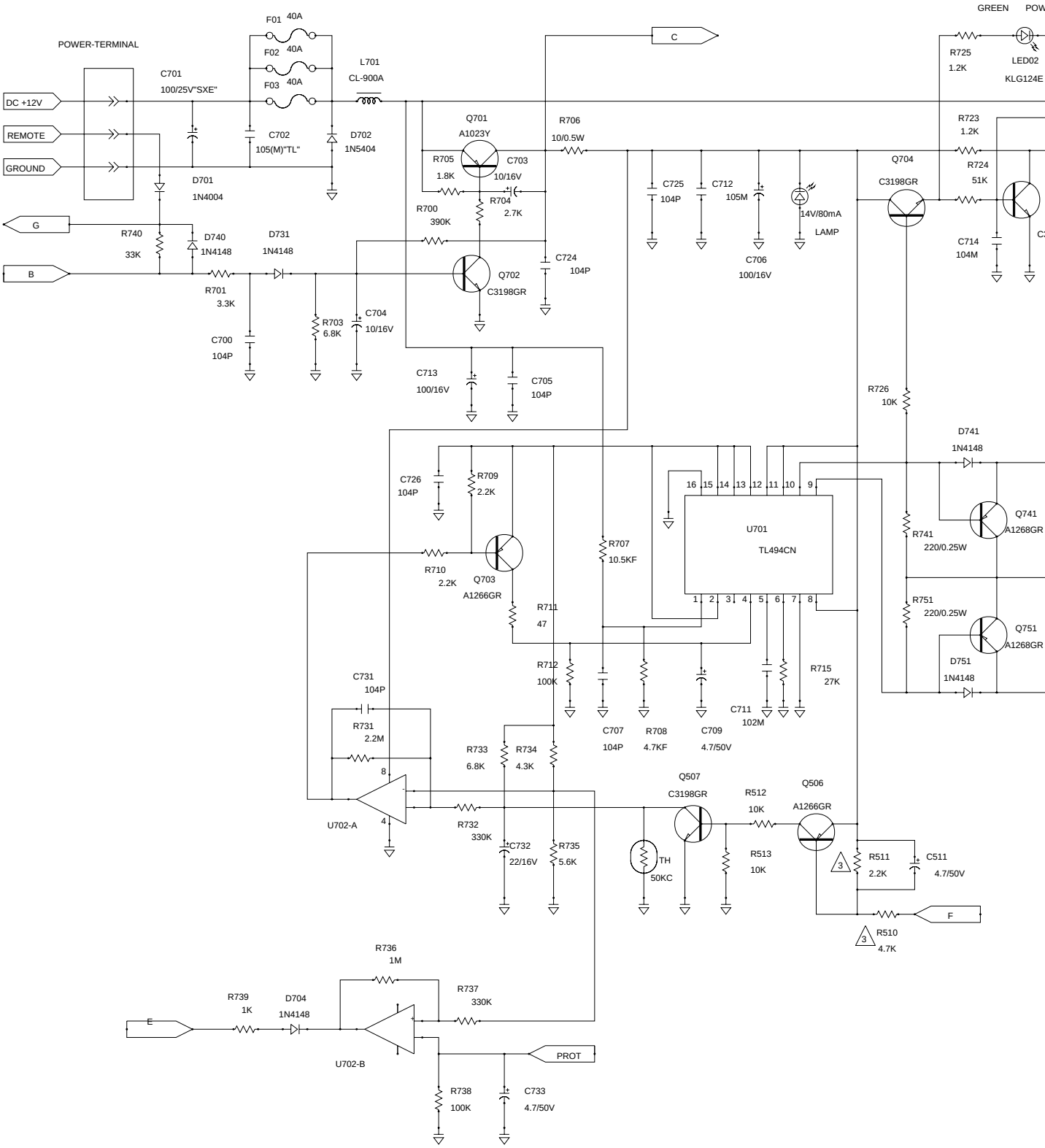

BP1200.1
REV.B
KTD-9217
KTD-9214
CT11-D12S
PAM344-03
CL-2100
CL-2200
CL-3100(60T(1.8x4))
4T(0.7X36)13T(0.7X12)+4T(0.7X1)
73PHI
47PHI
8200/50V/CE-HC"
220M/250V
225M"100V"
225M"T00V"
220/50V"SHI"
100/50V"BP"
MUR3040PT
IRF9640
IRF3205
IRF540
KIA393P
KIA4559P
TL494CN
TL074CN
PAS087-02
REV.A
POWER
PROTECTION


BP1200.1
KTD-9217
KTD-9214
PAM344-03
CT11-D12S
CL-2200
CL-3100(60T(1.8x1))
CL-900A
4T(0.7X36):13T(0.7X12)+4T(0.7X1)
73PHI
47PHI
8200/50V"CE-HC"
225M"100V"
2200/25V"RX"
105(M)"TL"
100/25V"SX"
1N5404
BAR25
MUR3040PT
TL494CN
KIA393P
KIA7812
KIA4559P
TL072CP
KIA431
LM1458
MA4B-65-10K3-0
MA4B-65-10K4-0
KA8554S
IRF9640
IRF3205
IRF3040
PR1504
PR1505
LAMP
14V/80mA
SUPPORT
CONN01
RELO1
PAS087-01
REV.0

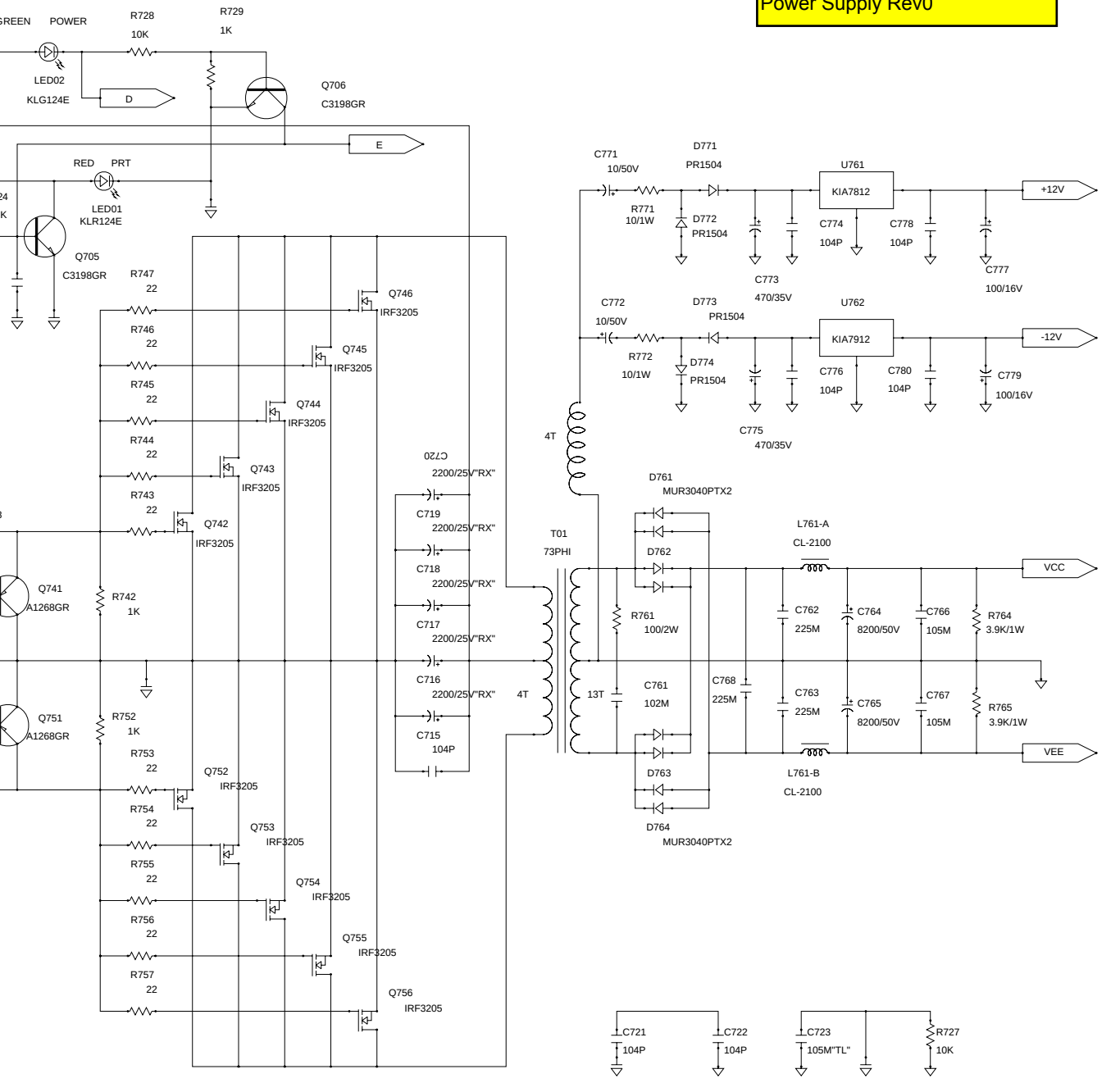
Power Supply Rev0



Power Supply Rev0

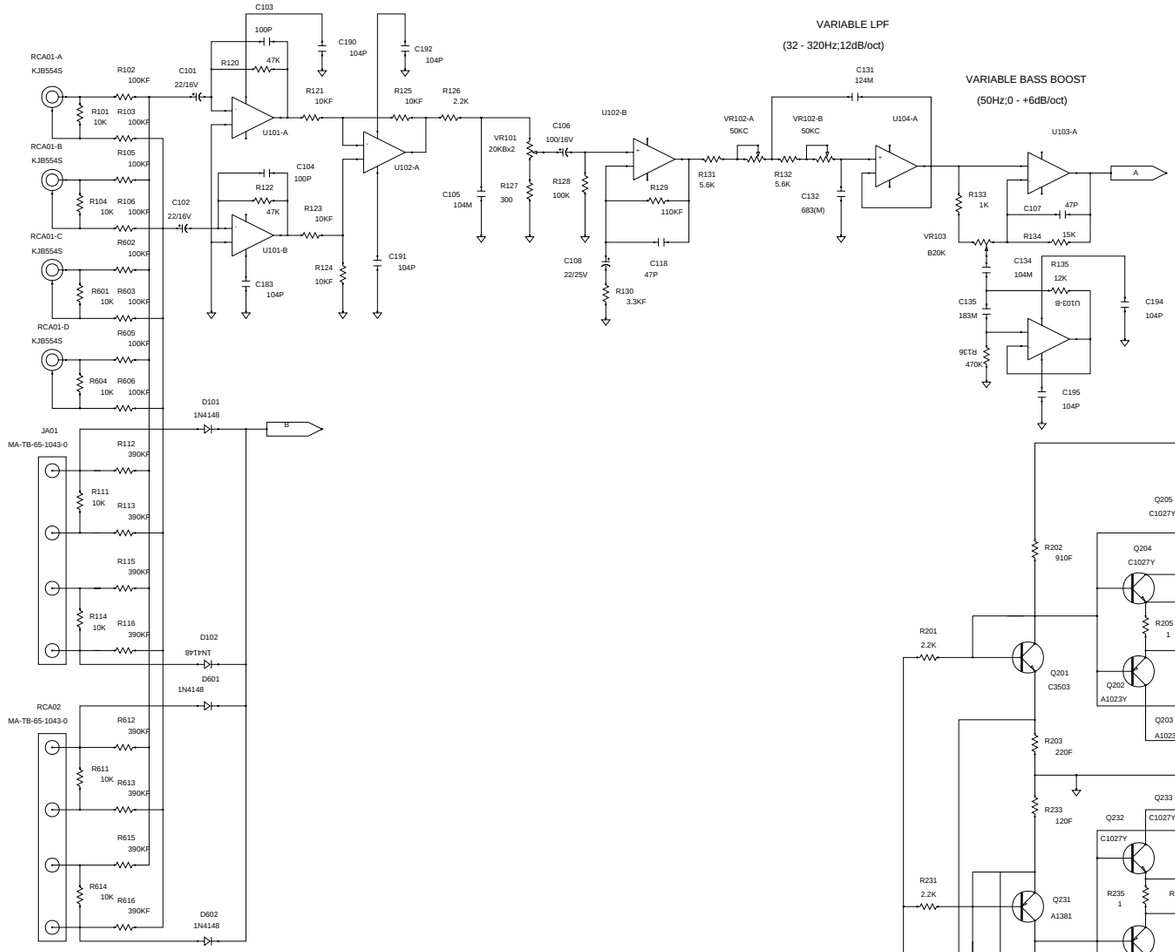


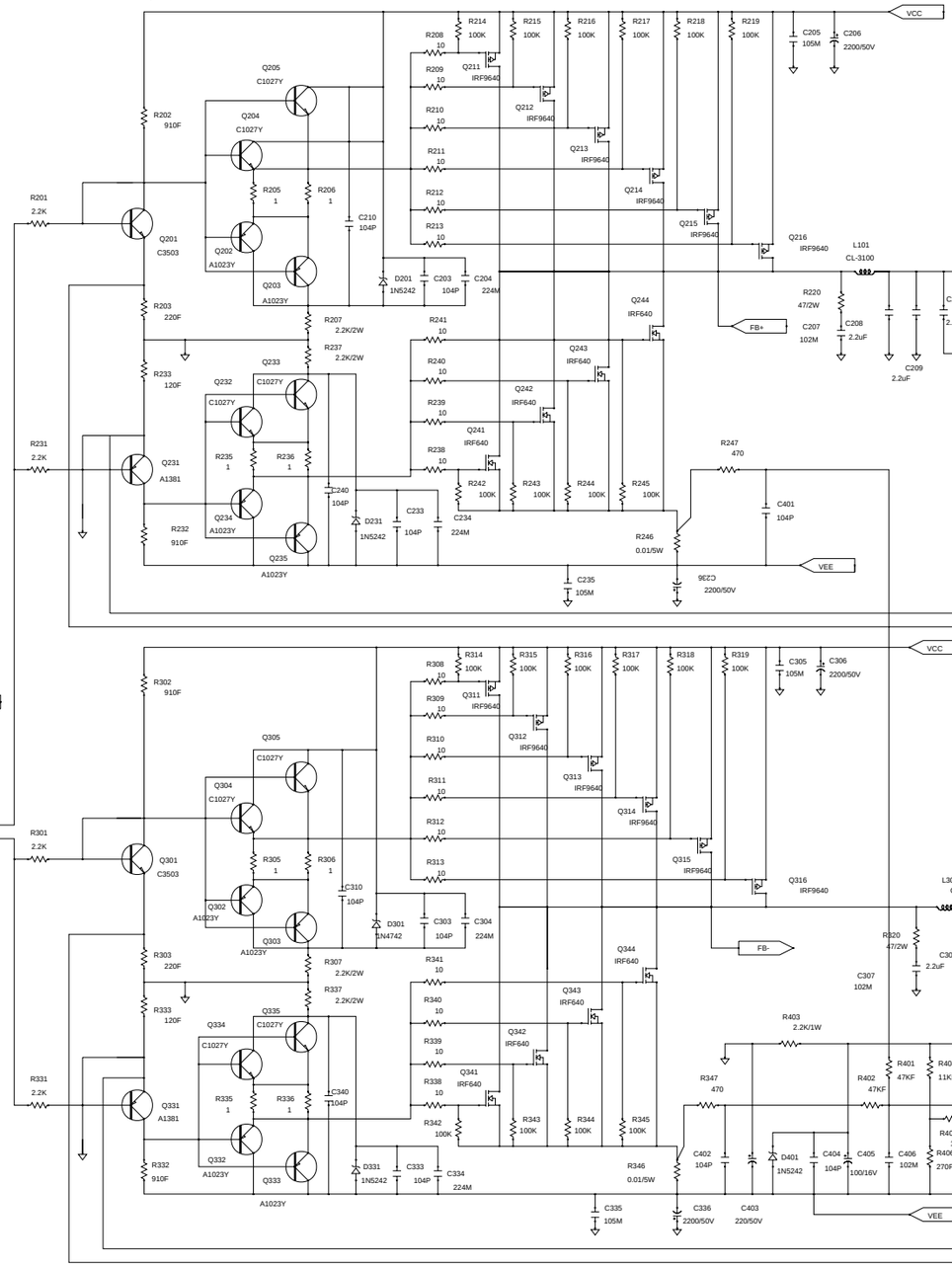
Power Supply Rev0

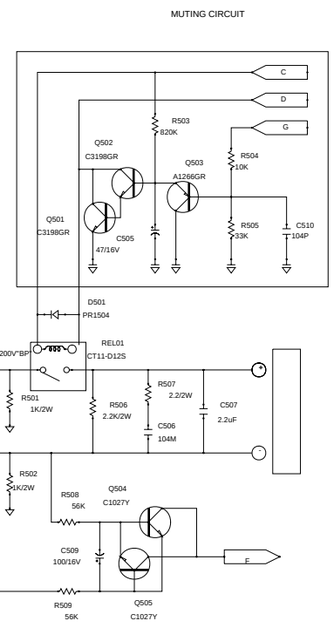


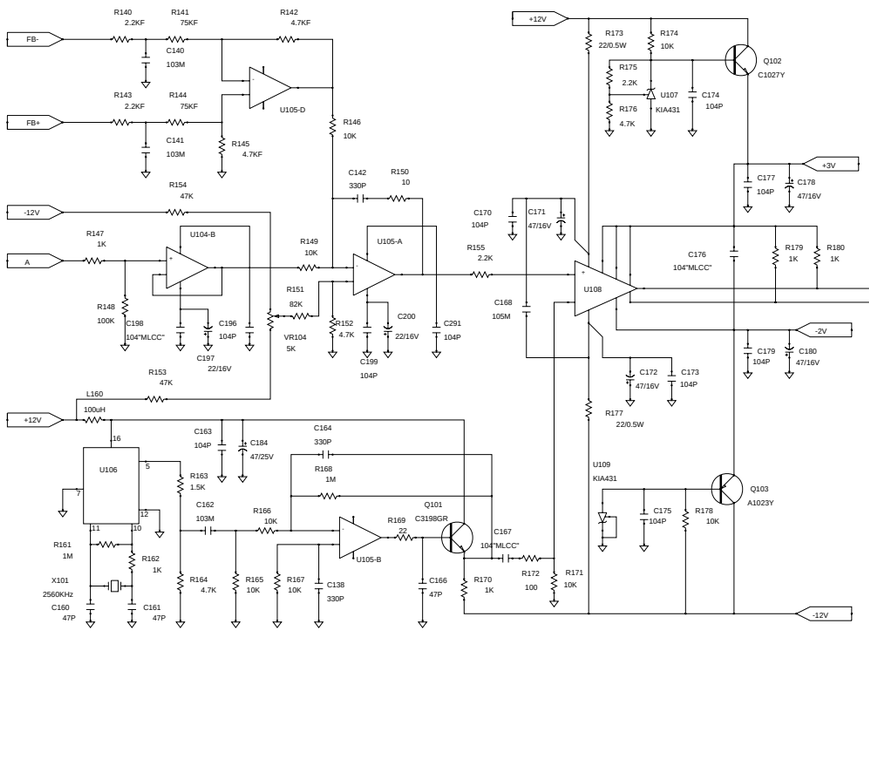
Input/Crossover/Power Amp Rev0

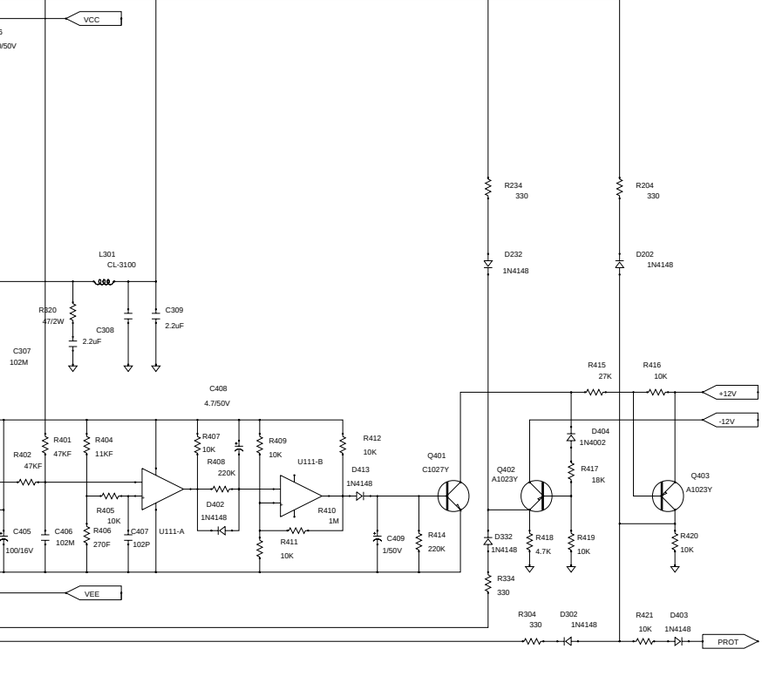
BP1200.1

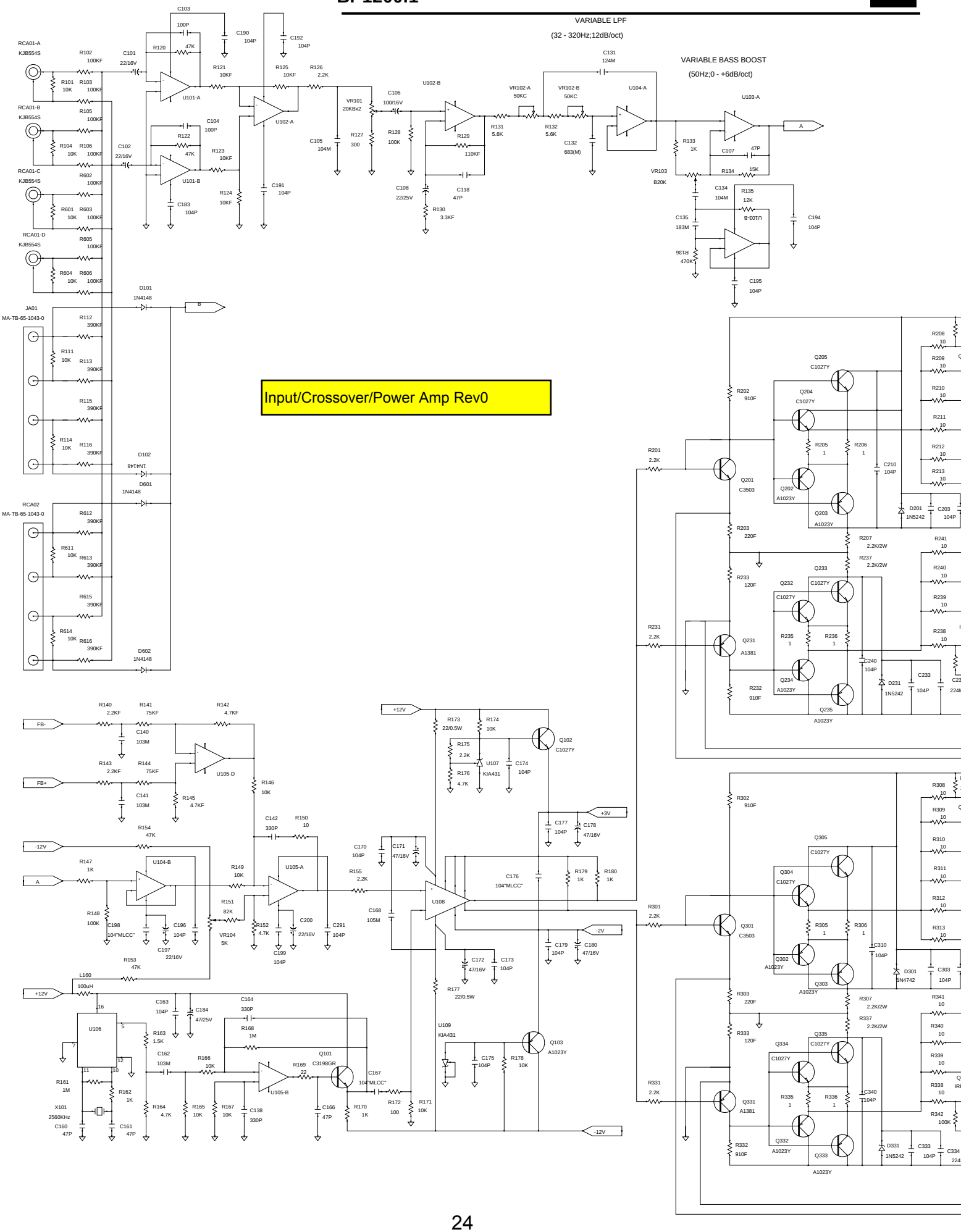






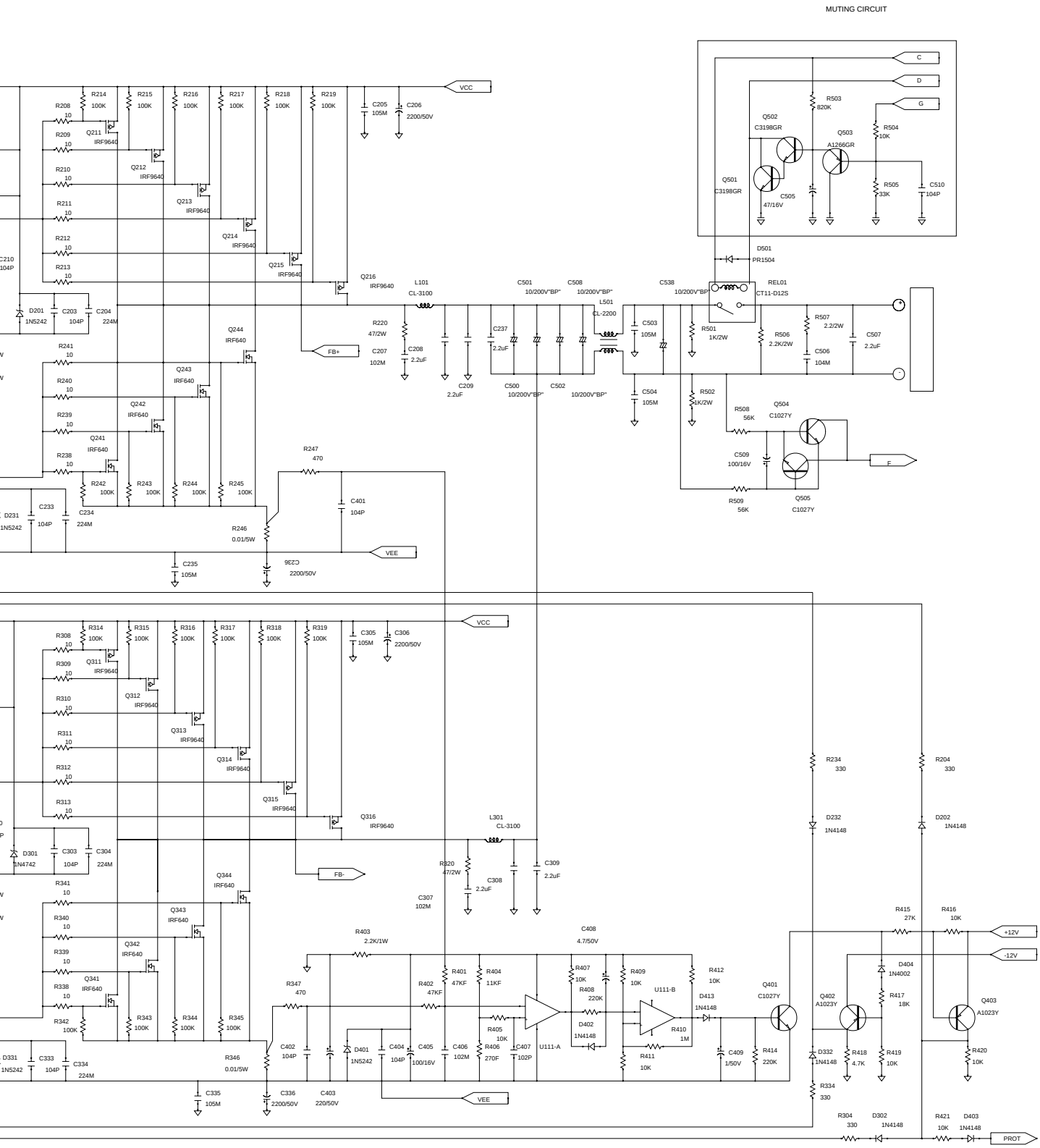





VARIABLE LPF
(32 - 320Hz;12dB/oct)
VARIABLE BASS BOOST
(50Hz;0 - +6dB/oct)
Input/Crossover/Power Amp Rev0

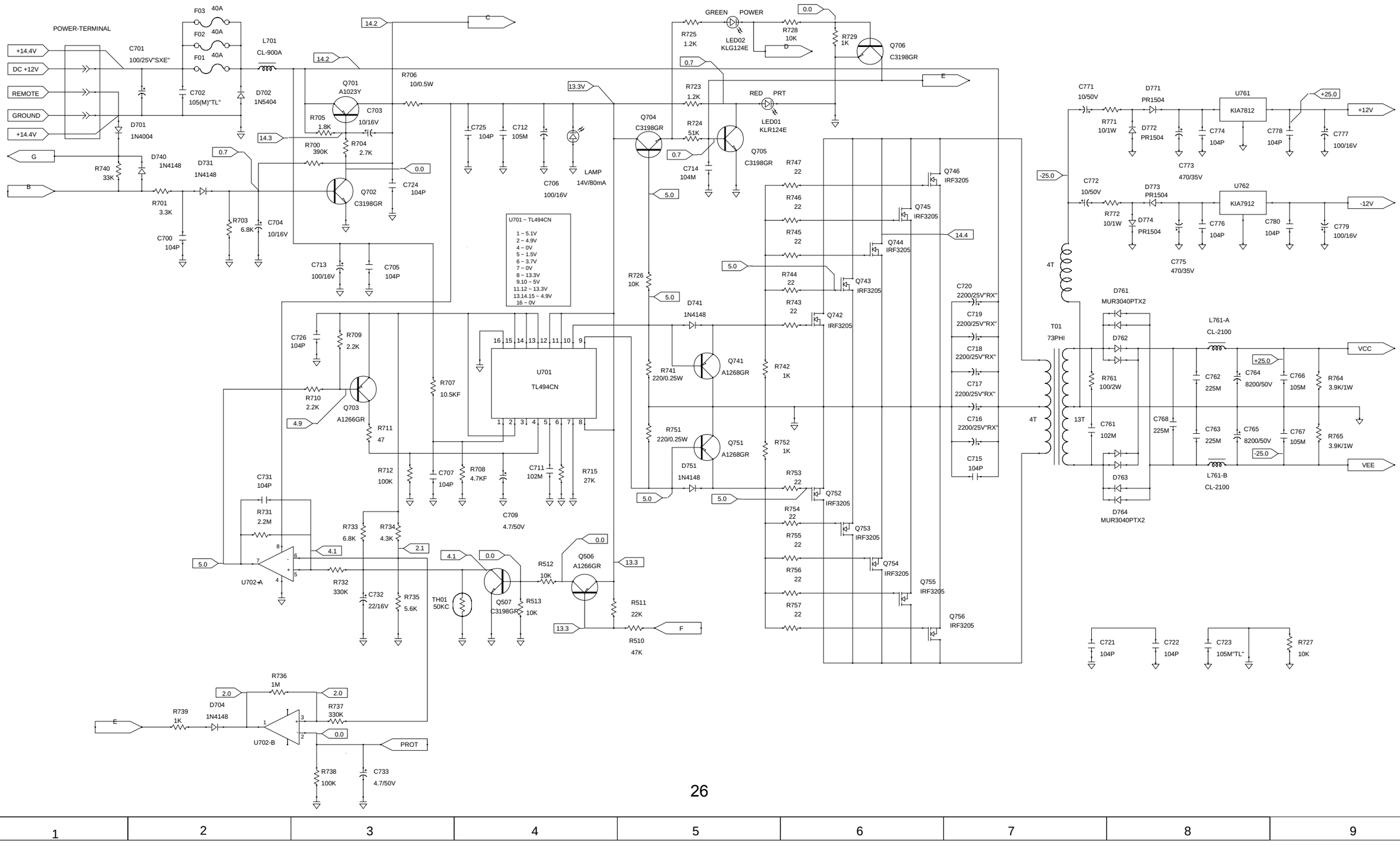
Input/Crossover/Power Amp Rev0

BP1200.1

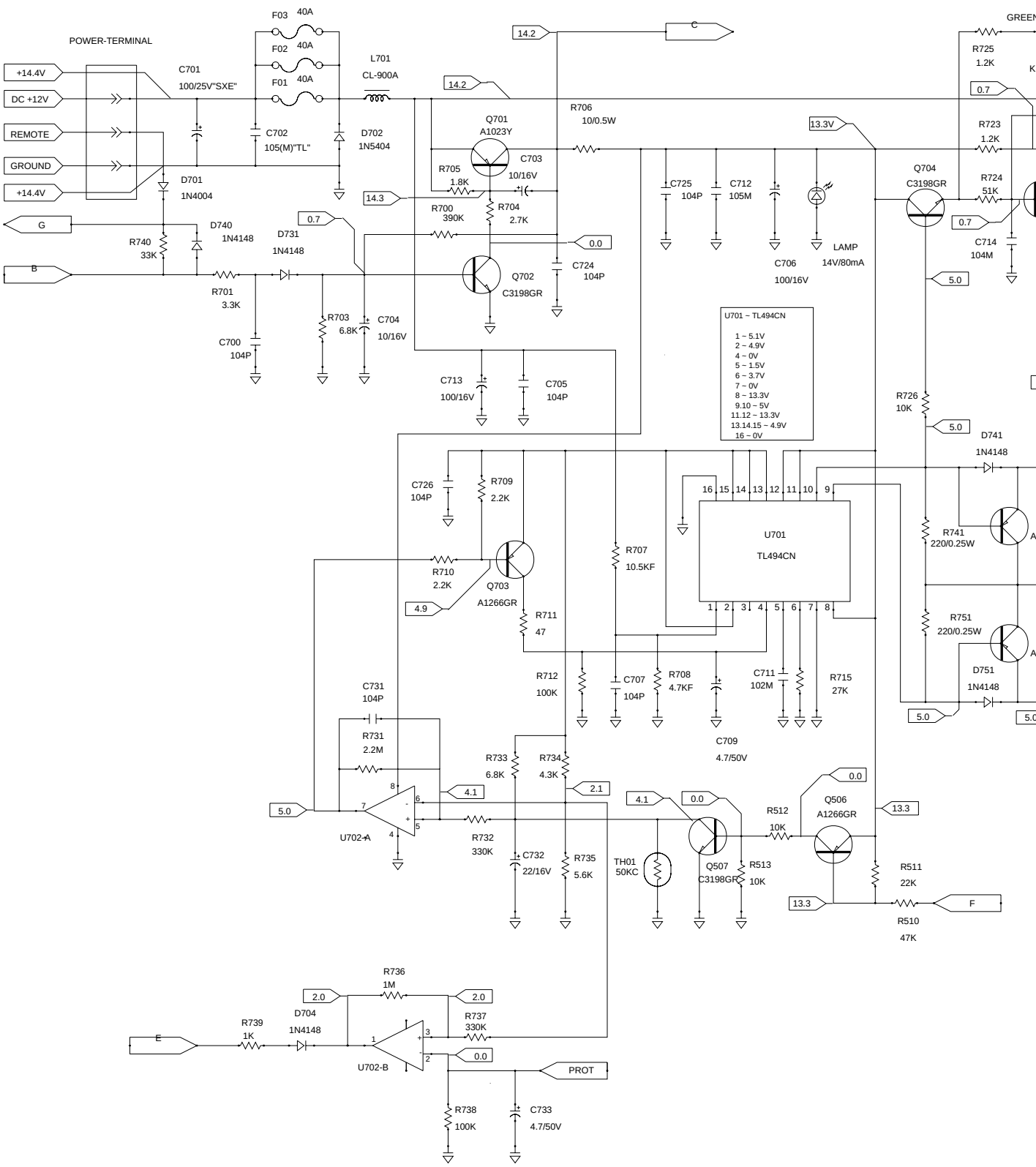


Power Amplifier (Sheet 1)

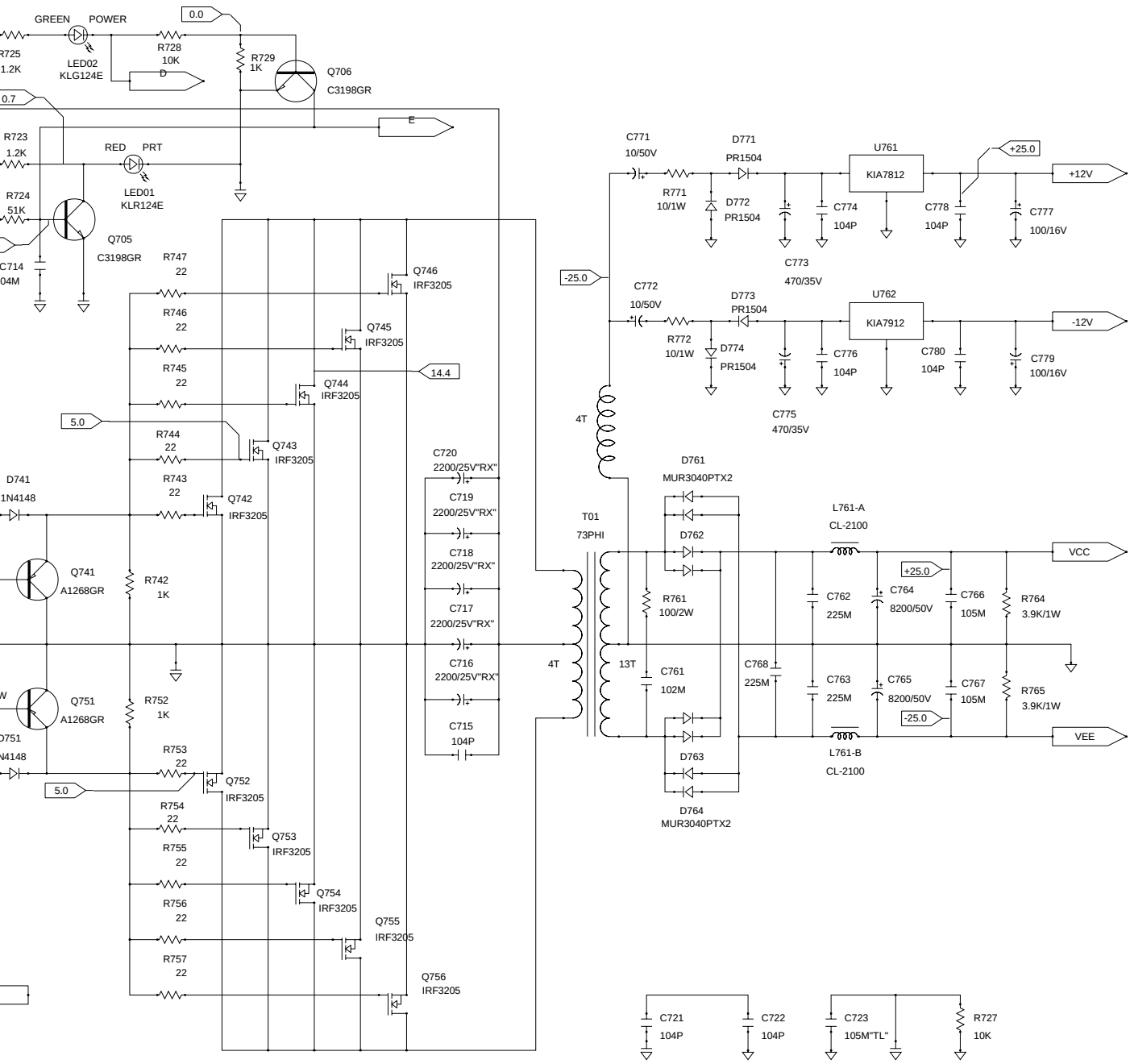
Power Supply Rev1



Power Supply Rev1



Power Supply Rev1



Input/Crossover/Power Amp Rev1

VARIABLE LPF
(32 - 320Hz;12dB/oct)

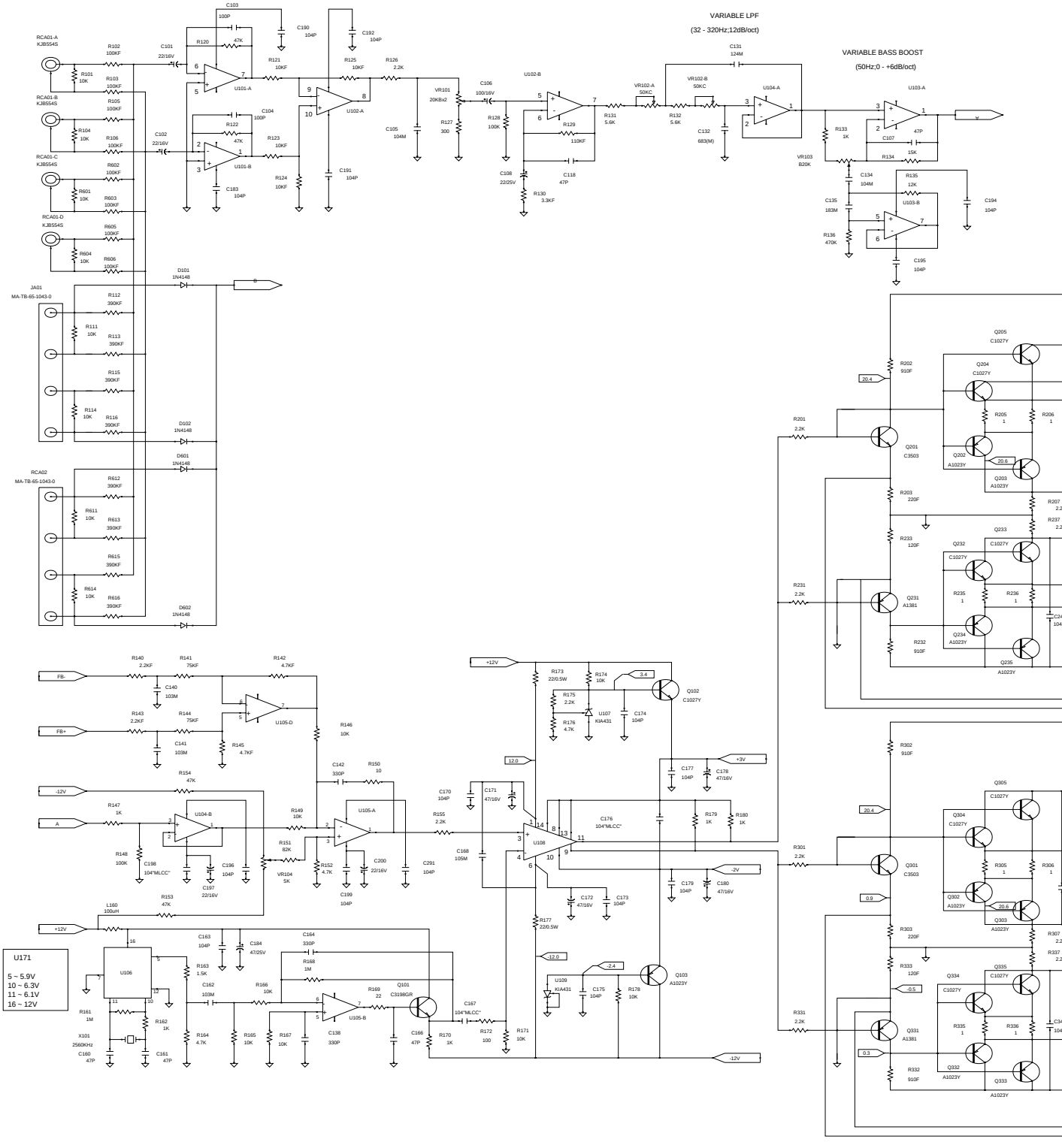
VARIABLE BASS BOOST
(50Hz;0 - +6dB/oct)

MUTING CIRCUIT

U171
5 ~ 5.9V
10 ~ 6.3V
11 ~ 6.1V
16 ~ 12V

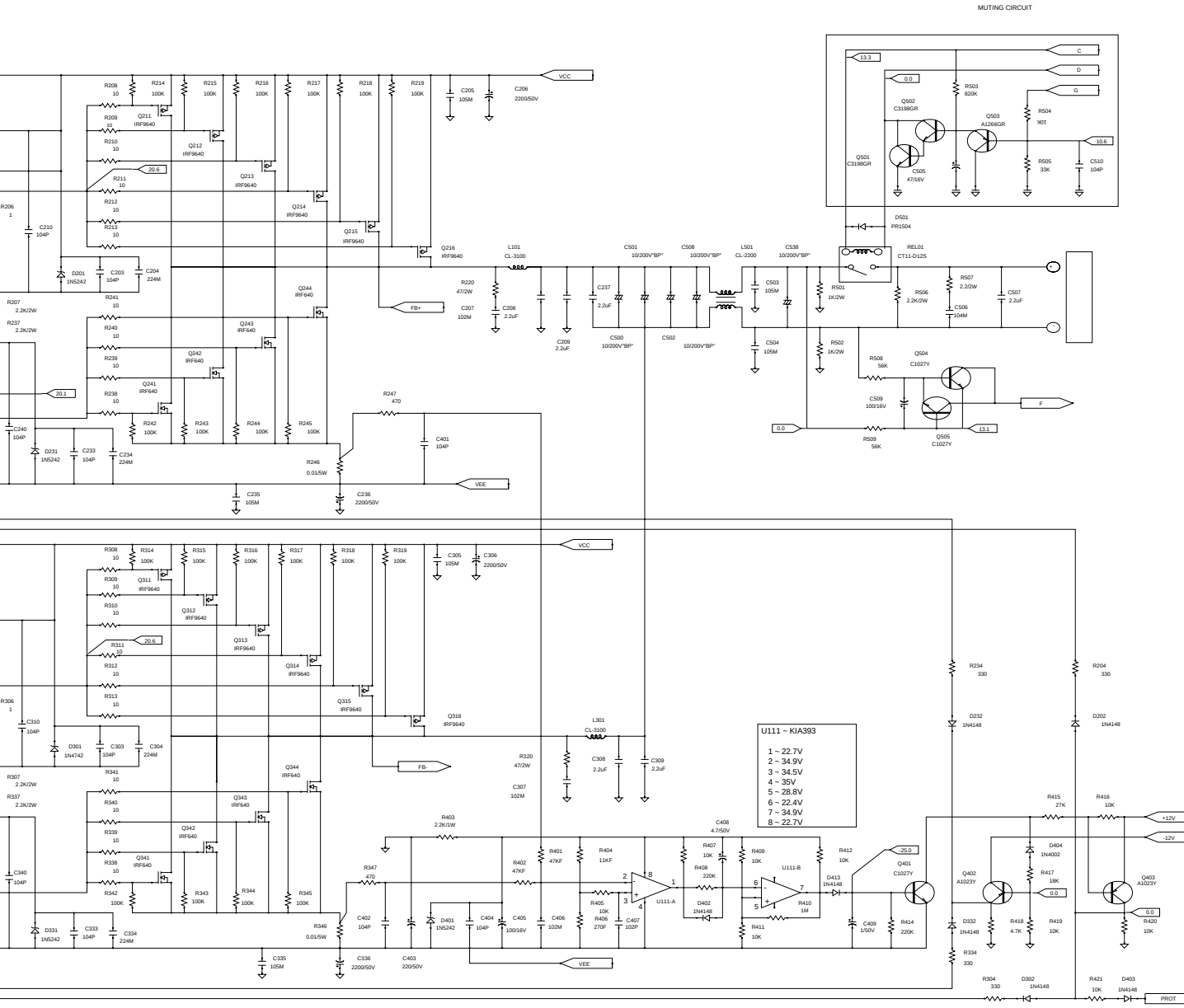
U111 ~ KIA393
1 ~ 22.7V
2 ~ 34.9V
3 ~ 34.5V
4 ~ 35V
5 ~ 28.8V
6 ~ 22.4V
7 ~ 34.9V
8 ~ 22.7V

Input/Crossover/Power Amp Rev1

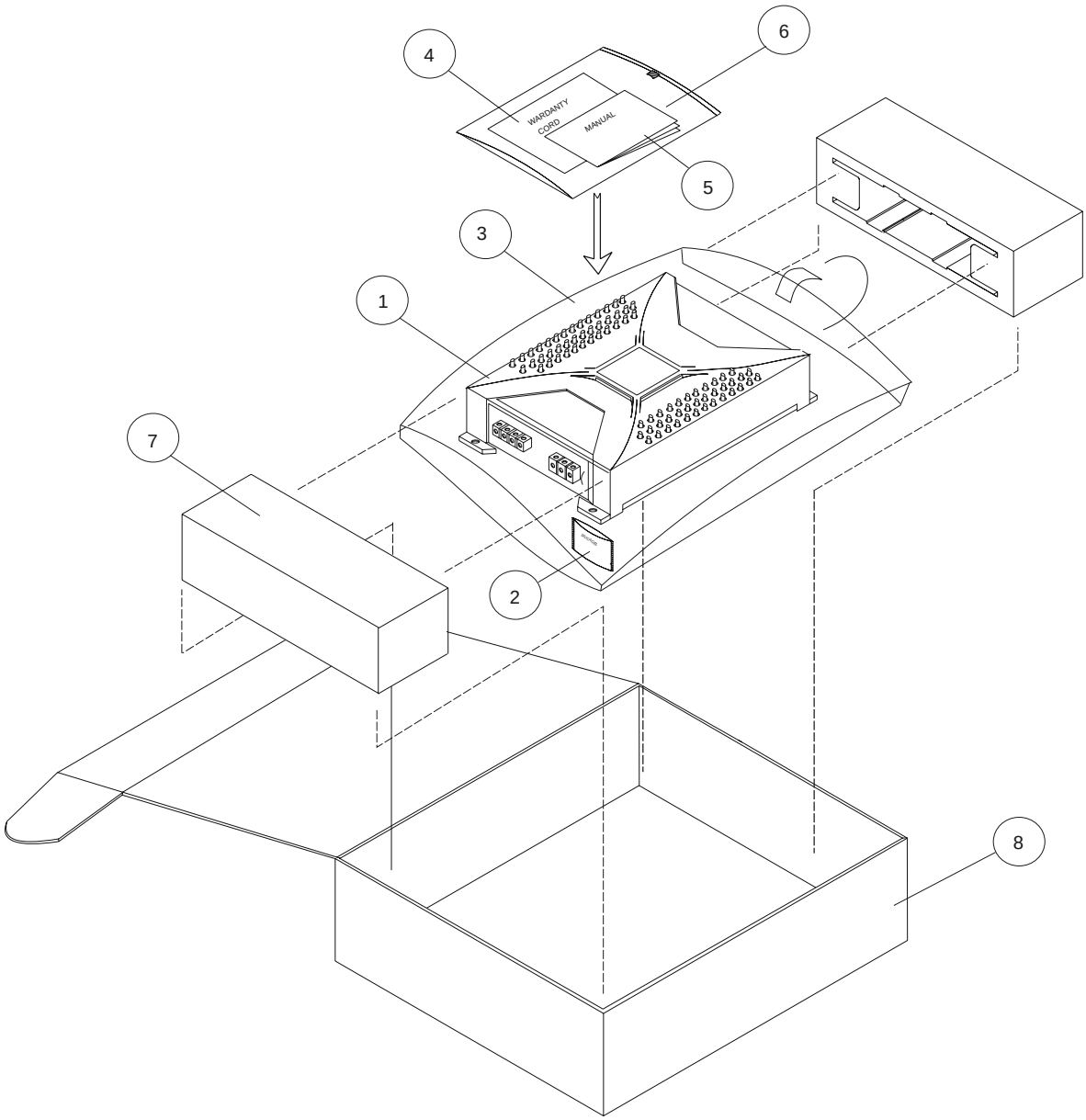


er (Sheet 2)

Input/Crossover/Power Amp Rev1



Packaging Exploded View



* PACKAGE *

1	BP1200.1	SET	1	5	MOMA0147191	MANUAL	1
2	MOSG0147100	SILICAGEL	1	6	MAPB0141000	POLY BAG	1
3	MAPB0110800	POLY BAG	1	7	MASN0210830	SNOW PAD "L,R"	2
4	MOWT0147110	WARRANTY CARD	1	8	MAGB0038130	GIFT BOX	1